

THE SOUTH AFRICAN BREWERIES LIMITED

A CASE STUDY IN MONOPOLY CONDITIONS,
CONGLOMERATE DIVERSIFICATION, AND
CORPORATE CONTROL IN THE
SOUTH AFRICAN MALT BEER INDUSTRY

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1997

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This dissertation is submitted in fulfillment of the requirements for the degree Master of Commerce, in the School of Economics at the University of Cape Town. I confirm that the work is my own, and that it has not been submitted, either in whole or in part, for purposes of any previous degree or examination.

I wish to thank my teachers, professors Brian Kantor and Graham Barr, for their assistance. I have an extraordinary debt to them for their contributions, within and without the context of the dissertation.

Support for this project in the structure of corporate ownership and control in South Africa was received from the Educational Trust of the Anglo American and De Beers Chairman's Fund, and the Centre for Science Development of the Human Sciences Research Council.

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INTRODUCTION

The South African Breweries Limited (SAB) is an extremely profitable business. In 1996, for example, group profits before taxes exceeded R3 billion, some 10 percent of total assets. For a capital intensive manufacturing enterprise, this represents a truly extraordinary result. The company is also South Africa's premier industrial enterprise. Between 1990 and 1996, for instance, SAB's return on equity consistently averaged around 5 percent per annum above the representative return on equity, calculated for the market as a whole. And as the country's largest single manufacturing business, SAB produces more than two percent of South Africa's gross domestic product, off roughly one percent of the country's fixed capital stock. For these reasons, SAB is in its own right an economic unit of some interest and significance.

But for the purposes of this dissertation, three additional features of the SAB group are significant. Firstly, SAB may be regarded, for many practical purposes, as the single supplier of malt beer in South Africa, a position which on several occasions has been termed a "monopoly". Secondly, SAB has until fairly recently formed part of a greater system of diversified arrangements—namely the Anglo American group. The company has also diversified into a variety of operations in its own right. SAB is therefore located at the heart of South Africa's so-called "group" structure: the group is itself a diversified conglomerate; and has for a considerable period of its history formed part of a broader conglomerate. Thirdly, SAB is part of a set of "pyramid" arrangements, an elaborate hierarchical system of corporate ownership and control.

Each of these features of the SAB group—monopoly, conglomerate, pyramid—will be examined in detail in this dissertation. For the moment, it will be sufficient to note only that SAB is an interesting subject of analysis, for four distinct reasons. Firstly, the company is extremely profitable. Secondly, the company is also the sole supplier of malt beer in South Africa. Thirdly, the company forms an integral part of the South African system of conglomerates. Finally, the group is also a pyramid. At this point, it should be an obvious question whether an explanation for the superior profitability of the SAB group may be found in any one, or some combination, of these factors. In particular, the following chapters aim to establish whether SAB's position as single supplier in the malt beer industry; SAB's strategy of conglomerate diversification; and the group's pyramid corporate structure, are related in an economically important way to the profitability of this, South Africa's premier industrial enterprise.

In this dissertation, the above question is addressed systematically: Chapter 1 examines the influence on SAB's profitability of the company's "monopoly" or single supplier position in the domestic malt beer industry. Chapter 2 investigates SAB's conglomerate structure to establish whether the firm's superior profitability may be explained by the system of diversified groups. Chapter 3 examines the impact on SAB's profitability of the "pyramid" corporate control system. The final chapter presents the investigation's conclusions.

THE SCOPE OF MONOPOLISTIC BEHAVIOUR IN THE SOUTH AFRICAN MALT BEER INDUSTRY

1. INTRODUCTION

The traditional analytical apparatus in industrial economics is based on a triplet of conceptual extremes, namely perfect competition, oligopoly and monopoly (Alberts, 1984; Lin, 1988). These models are supplemented by a range of highly refined intermediate models of industry and market structure (Bradburd, 1980; Clarke and Davies, 1983; Grossman and Hart, 1986). In the present chapter, the basic analytical apparatus made up of these models is retained as the underlying theoretical framework, sometimes in favour of significant advances in the pure economic theory of industrial organisation and market structure (for example, Alchian and Demsetz, 1972), since the conceptual content of these models—apart from being both simple and familiar—provides a number of useful insights into market structure and firm behaviour. Firstly, the insights that flow from the classical model of monopoly point to some of the devices and consequences of anticompetitive behaviour, including output restriction (Bradburd, 1982) and price inflation (Fourie, 1991). ~~Secondly, the monopoly model points to some of the incentives that underlie monopolistic behaviour, including diminished competition~~ (Caves, Fortunato and Ghemawat, 1984) and excessive profits (Bradburd and Caves, 1982).

But despite the useful theoretical insights, and the important conceptual framework, that may be derived from concepts such as monopoly, oligopoly and perfect competition, it is necessary to bear in mind throughout the analysis that these are essentially theoretical devices. As such, they will seldom be directly applicable to the complex phenomena found in reality (Greer, 1971; Hawkins and Radcliffe, 1971; Hatten and Schendel, 1977; Bresnahan, 1981; Sumner, 1981; Sullivan, 1985). Rather, the concepts will usually require qualified interpretations, or specific assumptions, to make for an empirically meaningful investigation. Monopolistic behaviour, for example, will not usually assume such obvious forms as output restriction or excessive profits (Peltzman, 1985). Rather, the more explicit forms of monopolistic behaviour should generally be seen as sufficient—certainly not necessary—conditions for the existence of monopoly. Thus, the concepts ‘monopoly’ and ‘oligopoly’ are on their own too theoretically restrictive for empirical purposes.

To overcome the narrow application that these concepts have to the economic phenomena found in reality—including the apparent existence of monopolistic conditions in the South African malt beer

industry—it will be useful to elaborate a more manageable definition, a more basic definition, of “monopoly”. For this purpose, the ordinary definition of a monopolist—a firm which raises prices, and in some circumstances costs, beyond the level that would normally be expected under competitive conditions—belies three more empirically substantial conditions for a market to be identified as monopolistic. These conditions may be outlined as follows. Firstly, a firm must have an incentive to behave monopolistically. The ability to engage in monopolistic behaviour—to determine prices unilaterally, for example—is significant only if the firm has an incentive to do so. Secondly, a firm must have the ability to behave monopolistically. The incentive to raise prices unilaterally, for example, will not be meaningful if the firm is not free, at least to some extent, to set the price of its product. Thirdly, an alternative explanation of an apparent monopolistic situation—such as a single supplier in a particular industry—should (rightly) be expected if the evidence does not point to monopolistic behaviour. In contrast with the conceptually narrow and empirically restrictive notion of monopoly, the above hierarchy of conditions is sufficiently broad to be subjected to empirical analysis.

This particular empirical ^{an idea} conception of monopolistic behaviour is useful for several reasons. Firstly, the flexibility offered by this conception allows us to examine non-competitive behaviour as it arises within a particular firm. Thus, the above approach allows us to avoid, for example, the stylised observations available from industry-level and other aggregate studies of market concentration. The following analysis aims to avoid the latter approach, since the evidence accumulated by industry-wide studies is largely empirically indeterminate, isolating several as yet irreconcilable stylisations of non-competitive behaviour. (For examples of the variety of empirical results, see: Domowitz, Hubbard and Petersen, 1986, and Hall, 1986; Davies, 1979, and Schmalensee, 1991. For a summary of the stylised facts, see: Schmalensee, 1991.) Thus, as may be seen in the following sections, the above conception of monopolistic behaviour allows us to examine non-competitive behaviour as it arises within a particular firm, without sacrificing the general applicability of our conclusions. This approach is not without problems of its own, of course, since a focus on the level of individual firms or industries does not, by itself, appear to guarantee convergence of opinion (see for example, Fourie and Smith, 1994, and the response by Leach, 1994). Nonetheless, the following sections will argue that this particular problem, unlike the problems with industry-wide studies, may be addressed and for many purposes substantially resolved.

The second reason for the usefulness of the broad conception of monopolistic behaviour devised above, is that it allows a more inclusive view of monopolistic and oligopolistic behaviour. It will be desirable to avoid, for example, the excessively narrow approach, popular in certain academic quarters, of producing a steady stream of mathematical adjustments from models of non-competitive behaviour—particularly competition and cooperation in oligopolistic settings—with limited contributions overall to the more

fundamental insights and intuitive conceptions of industry structure and monopolistic behaviour. This approach is important, for our purposes, since elaborate econometric or mathematical—theoretical models of oligopolistic competition, entry, and so on, will not usually be applicable to an industry, such as the South African malt beer industry, in which there is effectively a single supplier. Finally, as may be seen below, the consistency of our conception of monopolistic conditions with the more usual definition allows our approach in the following empirical analysis to be both intuitive and conceptually accessible.

For these reasons, it will be useful for our purposes to frame monopolistic behaviour in terms of three distinct empirical conditions. The following analysis of monopolistic conditions in the South African malt beer industry is structured accordingly. Section 2 examines SAB's ability to behave monopolistically in the South African malt beer industry. Section 3 investigates SAB's incentive to behave monopolistically in the beer industry. Section 4 discusses the implications for barriers to entry in the malt beer industry. Section 5 presents the chapter's principal conclusions.

2. SAB'S ABILITY TO BEHAVE MONOPOLISTICALLY IN THE BEER INDUSTRY

According to the three empirical statements presented above, the ability to behave monopolistically is a necessary condition for the existence of monopoly. In this section, the analysis considers several relevant elements of SAB's ability to behave monopolistically in the South African malt beer industry. And since the existence of monopolistic conditions is normally associated with the freedom of a producer or supplier to determine prices unilaterally (Reekie, 1984a), the analysis in this section considers primarily SAB's ability to set South African beer prices.

2.1 DETERMINANTS OF THE REAL BEER PRICE IN SOUTH AFRICA

In this section, we consider SAB's ability to determine South African beer prices unilaterally—that is, SAB's ability to exert an independent influence over the price of malt beer. It will be useful in this regard to examine the determinants of domestic malt beer prices. Economic theory leads us to expect, for example, that a monopolist's pricing behaviour is determined by such factors as the elasticity of demand, the availability of substitutes, and barriers to entry in the particular industry or market (Cowling, 1976). In particular, the monopolist's prices are expected to be higher, the less price elastic is demand; the more unique is the product—that is, the less cross-price elastic is demand; and the higher are barriers to entry in the industry.

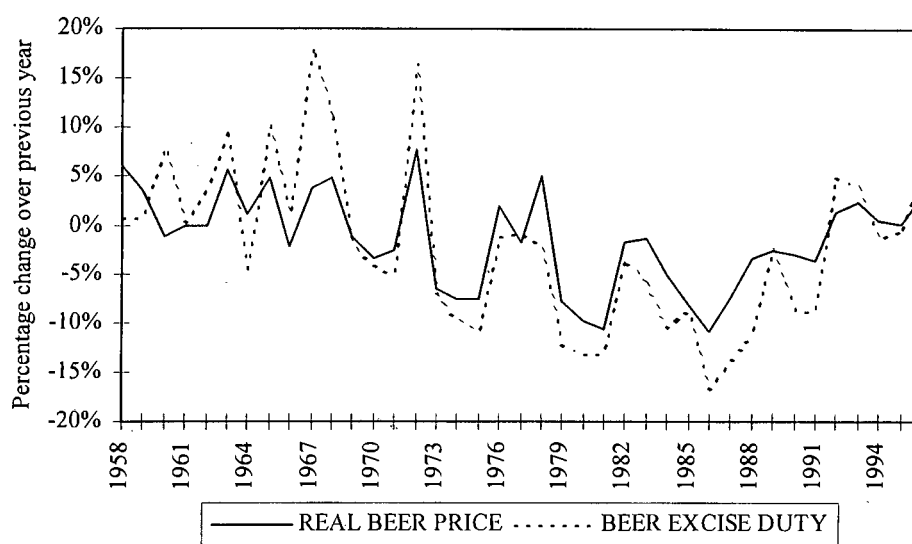
Taken together, these observations suggest that monopolistic pricing may be evaluated with respect to two conceptually distinct conditions. Firstly, it must be established whether the firm has a substantial degree of freedom to set the prices of its products. Secondly, if the analysis finds that the firm is indeed free to do so, it must then be established whether the firm determines its prices with explicit consideration for demand elasticities, availability of substitutes, the level of industry competition, and so on. Thus, so far as the ability to behave monopolistically is concerned, it would seem appropriate to conclude that the South African malt beer industry is characterised by monopolistic conditions *only* if SAB has the ability to raise prices independently *and if the determinants* of SAB's beer price include factors that indicate monopolistic behaviour. Equivalently, we may infer from contrary evidence that the possibility of monopolistic behaviour in the South African beer industry must be logically excluded. The determinants of South African beer prices are examined in the following sections.

deciding
The first determinant of the beer price to consider is government's *tax charged on alcoholic drinks* excise policy. In its annual reports to shareholders, and in occasional submissions to the Competition Board, SAB repeatedly emphasises the adverse effects of government excise duties on its financial performance (SAB, 1995). The company's claims are twofold. Firstly, SAB contends that a series of excessive excise duty increases in the 1950s prompted its merger in 1956 with Ohlsson's Cape and Chandlers Union breweries. Since SAB came to produce 94% of industry output as a direct result of the 1956 beer industry merger (Competition Board, 1982), this claim states, by implication, that government excise duties on beer are an important reason for SAB's current dominant position in the malt beer industry. Secondly, SAB cites government's asymmetric application of excise duties against beer (particularly in favour of wine and spirits) as the reason behind its conglomerate diversification—first into wine and spirits, and subsequently into a broader range of industrial interests (SAB, 1995). Since SAB has become an integral part of corporate South Africa's conglomerate landscape, this claim states by implication that the government's historical excise stance accounts for a significant part of the company's current conglomerate structure.

It will be useful to consider the relationship between excise duties and the beer price in more detail for the following reasons. Firstly, since a later chapter will be concerned with examining and modeling the profitability of SAB's beer division, it will be useful to investigate those events—including the 1956 merger—that directly affected the beer division's profitability. Secondly, the Competition Board also has an interest in the profitability of SAB's beer division, and has on occasion cited both "monopolistic conditions" in the malt brewing industry (Competition Board, 1982: 68-72), and the government ruling that originally justified the 1956 merger in the "public interest" (Board of Trade & Industry, 1958). Thirdly, since a later chapter will be concerned with the economic rationale for SAB's program of conglomerate diversification, it will be a reasonable point of departure to examine the explanation offered

by SAB for its strategy of horizontal diversification, including the claim that government's excise policy has historically favoured wine and spirits at the expense of malt beer. Finally, as will be seen, the impact of excise duties offers an enormous range of empirical possibilities—from estimating price-elasticities, to identifying the importance of returns to scale (Sumner, 1981; Sullivan, 1985). For these reasons, it will be useful to consider SAB's claims in more detail. The claim that the government has applied excise duties asymmetrically—in favour of wine and at the expense of beer—is considered in a later section. In the present section, we consider the first component of SAB's claims, namely the relationship between government's excise duty and the South African beer price.

FIGURE 1. EXCISE DUTY AND THE REAL BEER PRICE, 1958 – 1996.



In 1955, according to SAB, government introduced “punitive and highly discriminatory” excise duties, which seriously prejudiced beer. In response, and at SAB’s initiation, “the three main brewing groups were merged to establish a more resilient and viable entity” (SAB, 1995: 9). It would be desirable, of course, to investigate this claim by estimating the relationship between excise duty and beer prices for the period between, say, 1950 and 1960. This approach would offer the advantage of establishing more directly whether the significant increase in excise duties in the 1950s led to substantial increases in the beer price. However, comparable beer price data are not directly available for the pre-1957 period, since the 1956 beer industry merger combined the operations of three distinct companies. Instead, beer price data were compiled for the post-1957 period to see what general conclusions might be drawn about the relationship between beer prices and excise duty. Having established the general beer price–excise duty relationship,

the 1950s excise increases may then be analysed to gain a sense of their likely impact on SAB's financial performance. The data are presented in Figure 1. Note that, to exclude the joint influence of the general price level on the two variables, data for beer prices and excise duty are expressed in real or price-adjusted terms.

Figure 1 indicates that, between 1958 and 1996, increases in the real price of malt beer have been accompanied consistently by increases in government excise duty. Indeed, the relationship is extremely close, which suggests that government excise duties are a significant determinant of short-term changes in the real beer price. This relationship is confirmed in Output 1, a simple (mean normal) regression model explaining changes in the real beer price with changes in excise duty.

OUTPUT 1. EXCISE DUTY AND THE REAL PRICE OF BEER, 1958 – 1996.

LS // Dependent Variable is Real Beer Price			
Range: 1958 - 1996		Format: Annual percent changes	Number of observations: 39
Independent variable	Coefficient	Two-tailed significance level.	
Constant	-0.3832172	0.379	
Real Excise Duty	0.5045868	0.000	
R-squared	0.734832	Mean of dependent var	-1.488153
Adjusted R-squared	0.727666	S.D. of dependent var	4.985488
S.E. of regression	2.601710	Sum of squared resid	250.4491
Durbin-Watson stat	1.653614	F-statistic	102.5344

The following observations may be drawn from Output 1. Firstly, the parameter estimate on the excise variable indicates that increases in the real beer price do not fully incorporate increases in excise duty; the regression model indicates that, on average, a one-percent increase in excise duty results in a half-percent (.51%) increase in the real beer price. This observation suggests that SAB contains changes in the real beer price, at least ^{not complete/ of a part} partially, by absorbing increases in excise duty. Additional evidence for this observation is provided below. But more importantly for present purposes, Output 1 indicates that almost three-quarters (73.5%) of changes in the real beer price are explained by changes in real excise duty. Indeed the substantial explanatory power of excise duty suggests that government's excise policy is the single most important determinant of short term changes in the real beer price.

done by one person or country.

By way of drawing a conclusion from the above analysis, it is sufficient to note the earlier suggestion that monopolistic pricing behaviour is possible only if a firm is free, at least to a significant degree, to set prices unilaterally. Since a substantial part of the South African beer price is determined independently of SAB, the implication would appear to be that SAB's pricing strategy cannot be logically consistent with monopolistic behaviour, at least as defined earlier. Rather, the beer price appears to be primarily dependent on government's excise policy.

2.2 DETERMINANTS OF THE PURE BEER PRICE IN SOUTH AFRICA

~~The preceding analysis drew the conclusion that government excise duty is a significant determinant of the beer price in South Africa. It will be useful, therefore, to isolate the effects of excise duty on the beer price by calculating a "pure" beer price. (For our purposes, a "pure" beer price may be devised as the beer price adjusted for both inflation and excise duty.)~~ This adjustment is appropriate since the pure price represents that part of the beer price which ^{accumulates/pile up} accrues directly to SAB. That is, the analysis has considered, up to this point, the real beer price, which represents the effective price paid over by beer drinkers, after accounting for inflation. It will be appropriate to examine the pure beer price, since this will reflect the price that accrues directly to SAB as a producer of beer—after accounting for excise duty, which accrues directly to the government—and presumably, the price that SAB will use as the base for its pricing behaviour. Table 1 presents aggregate changes in the real beer price, real excise duty, the pure beer price, and the rate of inflation for different five-year periods between 1958 and 1996.

TABLE 1. AVERAGE BEER PRICE AND EXCISE DUTY INCREASES, 1958 – 1996.

	Average percent change over period								
	1958-62	1963-67	1968-72	1973-77	1978-82	1983-87	1988-92	1993-96	Average
Nominal beer price	1.7	2.4	2.4	2.8	3.3	3.2	4.8	4.1	3.1
Nominal excise duty	2.1	4.2	3.3	2.1	1.7	1.1	3.5	4.3	2.8
Consumer prices	2.2	2.9	4.4	10.8	12.6	13.9	13.2	7.9	8.5
Real beer price	1.7	2.7	1.1	-4.3	-5.1	-6.6	-2.2	1.5	-1.5
Real excise duty	2.6	6.8	3.3	-6.0	-8.8	-11.3	-5.2	1.9	-2.2
Pure beer price	1.1	-0.6	-1.3	-2.5	-1.9	-3.9	-0.9	1.4	-1.1

The following observations may be drawn from Table 1. Firstly, the real beer price (or the price paid over by beer consumers) is positively related to real excise duties: during periods when excise duties increase in constant price terms, the real beer price increases as well; and *vice versa*. This observation is merely a restatement of the earlier finding that the beer price is positively related to changes in excise duty. Secondly, the pure beer price (or the price effectively earned by beer producers) is also positively related to real excise duties. This observation also confirms, though more directly, the positive relationship

between excise duty and the beer price (see Figure 1). But more importantly, these results suggest that SAB's ability between 1973 and 1992 to maintain increases in the selling price of beer below increases in the general price level has been achieved, not only through "improved efficiencies and greater productivity" as SAB claims (SAB, 1993: 13), but because, over the same period, government excise duties have decreased in real terms as well. Table 1 indicates, for example, that the real beer price decreased by 1.5% between 1958 and 1996, while over the same period, excise duties adjusted for inflation decreased by 2.2%. These observations confirm our earlier suggestion that the beer price is to a large extent dependent on the government's particular stance towards excise duty.

It would seem reasonable to conclude, then, that an analysis of SAB's pricing behaviour must take explicit account of the influence of government excise duty, since this element of the beer price is evidently the single most important determinant of changes in the real beer price in South Africa. In particular, around three-quarters of changes in the real beer price are the direct result of changes in government excise duties, which suggests that the scope for unilateral manipulation of the beer price would appear to be around one-quarter of total changes in the beer price. Clearly, at this early point in our analysis, a promising conclusion has been reached: the scope for monopolistic pricing in the South African malt beer industry appears to be seriously limited.

OUTPUT 2. DETERMINANTS OF THE PURE BEER PRICE, 1960 – 1994.


LS // Dependent Variable is Pure Beer Price			
Range: 1960 - 1994		Format: Annual percent change	Number of observations: 35
Independent variable	Coefficient	Two-tailed significance level.	
Constant	-1.6414669	0.119	
Beer Volumes	0.0334399	0.808	
Real Income Elasticity	0.0674508	0.917	
Real Price Elasticity	0.5434174	0.693	
R-squared	0.007868	Mean of dependent var	-1.759851
Adjusted R-squared	-0.088145	S.D. of dependent var	4.284614
S.E. of regression	4.469460	Sum of squared resid	619.2584
Durbin-Watson stat	1.666602	F-statistic	0.081947

Apart from the significant impact and central importance of excise duties, it will be useful to identify the remaining factors that affect the beer price in South Africa. As noted earlier, for example, a monopolist is expected to formulate its pricing strategy with explicit regard for such factors as output volumes and the price- and income-elasticities of demand. In particular, the beer price is expected to be higher, the less

price- and income-elastic is the demand for beer. The significance of these factors is examined in Output 2.

The following observations may be drawn from Output 2. Firstly, the real income elasticity of demand for malt beer is not significantly different from zero (92% p -level). Secondly, the real price elasticity of demand is also statistically insignificant (69% p -level). Thirdly, beer prices and the volume of beer consumed are not related in a directly observable way (81% p -level). Finally, the explanatory power of beer volumes and the price- and income-elasticities of demand for beer, taken together, is extremely low ($R^2 < 0.01$). Thus these indicators of monopolistic behaviour appear to exert a far less significant influence on the beer price than government's excise stance. As indicated earlier, excise duties explain around 73% of beer price changes, while the monopolistic factors examined above together explain less than 1% of changes in the beer price. Thus, to the extent that beer sales volumes are the appropriate empirical counterpart of monopolistic behaviour such as output restriction (Chang and Stekler, 1986), and to the extent that demand elasticities serve as appropriate measures of the potential for monopolistic pricing (Cowling, 1976), it would appear that SAB does not have any notable ability to behave monopolistically in the beer industry, since beer sales volumes and the price- and income-elasticities of beer demand enter into SAB's pricing behaviour in a statistically insignificant way.

But before the analysis may reject outright the proposition that SAB has a distinct ability to behave monopolistically in the malt beer industry, a comment on the economic implications of the above statistical results will be appropriate. In particular, the point will not be made that actual economic behaviour is in any way constrained by apparent statistical insignificance. Such a conclusion would clearly be incorrect (Wald, 1939). We have merely made the point that it is a *necessary* condition, for monopolistic behaviour, that the empirical relationships on which this sort of behaviour would appear to depend must be robust, particularly for purposes of exacting a profit from exploiting such a relationship (McCloskey and Ziliak, 1996). That is, it will be far from satisfactory to conclude that SAB exacts a profit by setting beer prices in strict accordance with demand elasticities if a straightforward empirical estimate reveals that these factors are not sufficiently significant (in the usual statistical sense) for purposes of designing a conclusive strategy that aims to exploit this sort of relationship. Such a conclusion would be warranted only for estimated values which point to a substantially more robust relationship than would appear to be the case from Output 2. That is, SAB would not be expected to frame its pricing policy in accordance with factors which, even in a carefully designed econometric analysis, do not appear to be robust enough for any practical purpose, least of all monopolistic behaviour. Thus, if the determinants of SAB's pricing behaviour were ranked in terms of their significance, then monopolistic factors—such as market power, demand elasticities, and availability of substitutes—would be substantially insignificant relative to the



influence of excise duties on the beer price. Indeed, the preceding statistical analysis suggests that these factors may even be irrelevant.

2.3 THE POSSIBILITY OF MONOPOLISTIC BEHAVIOUR IN THE BEER INDUSTRY

In concluding this section, it will be useful to re-examine the hierarchy of conditions posed at the outset. In terms of those conditions, the preceding analysis considered SAB's ability to behave monopolistically. In particular, if SAB exerts any material monopolistic influence or "market power" in the beer industry, then the beer price should be determined by such factors as SAB's output level, the demand elasticity for malt beer, and the availability of substitutes. The preceding analysis suggests, however, that the South African beer price is dominated by government's excise policy. This suggests that South Africa's dominant beer producer cannot exert any significant independent influence over the beer price. For our purposes, it should only be noted that exactly the opposite would be expected of a firm exercising market power over prices.

But apart from the dominant impact of government excise duties, the preceding analysis has suggested that two additional factors limit SAB's independent influence over the beer price. Firstly, the relationship between the beer price and output volumes is empirically insignificant, which appears to exclude the possibility of the more usual form of monopolistic pricing behaviour such as output restriction. Monopolistic behaviour of the output-limiting kind operates through output volumes; and since the price-output volume relationship is empirically weak, it would seem reasonable to conclude that any notable amount of monopolistic pricing would be extremely difficult. Secondly, the statistical relationship between demand elasticities and the beer price is a feeble one, which excludes the possibility of more subtle forms of monopolistic pricing behaviour, particularly those forms that operate through the demand elasticities for beer such as brand loyalty, variations in product quality, advertising intensity, and the availability of substitutes. It appears, in total, that SAB's ability to engage in monopolistic pricing behaviour is seriously limited.

3. INCENTIVES FOR MONOPOLISTIC BEHAVIOUR IN THE MALT BEER INDUSTRY

The previous section considered SAB's ability to behave monopolistically. In line with the hierarchy of empirical conditions proposed at the outset, the present section considers SAB's incentives for monopolistic behaviour. In line with the usual mode of economic analysis, the following sections will make the assumption that economic behaviour, including monopolistic behaviour, is guided significantly by economic incentives. This assumption does not appear to be unreasonable for our purposes, particularly since the usual conception of monopolistic behaviour is limited to the prospect of profit that may be

expected from behaving in this way. And as noted earlier, the ability to behave monopolistically is meaningful only if a firm has a material incentive to do so. Thus, in the following analysis, the possibility of monopolistic behaviour may be comprehensively excluded if there is no material incentive to behave monopolistically.

For a monopolist, a material incentive to behave monopolistically would amount to the aggregate benefits (net of costs) expected from raising prices above the level that might usually be expected under competitive conditions (Cowling and Waterson, 1976; Bradburd, 1982). The benefits expected from monopolistic behaviour are determined, in turn, by two key factors: the price elasticity of demand, and the extent of market competition. This is not to suggest that other factors do not impact on the monopolist's incentives, such as advertising intensity (Friedland, 1977; Cox, Deserpa and Canby, 1982), product quality (Bitros and Panas, 1988; Reitman, 1991; Rosenman and Wilson, 1991), brand loyalty (Ross, 1988), the availability of consumption substitutes (Swann, 1985), economies of scale (Levy, 1984), and barriers to entry (Scott, 1979). These factors will undoubtedly affect the scope of a monopolist's behavioural incentives. But it is important to note that these individual factors cannot operate on the monopolist's incentives independently. We argue below, in fact, that these factors do not form a separate basis for monopolistic behaviour—that is, except through their intermediate influence on the demand elasticity and level of competition.

To see the significance of demand elasticities and the level of competition, it will be useful to introduce the minimum technical notation. The following equation gives the Lerner index L_{ij} , an index of the extent to which a firm is able to raise prices P_{ij} above marginal cost MC_{ij} (Cowling, 1976):

$$L_{ij} = (P_{ij} - MC_{ij} / P_{ij}) = MS_{ij} (1 + \eta_{ij}) / \eta_{ij}.$$

In the above formulation, MS_{ij} represents the i -th firm's market share in the j -th industry, η_{ij} is the industry price-elasticity of demand, and $\eta_{ij} = (X_{kj} / X_{ij})$ is the industry conjectural variation—defined as the output (or equivalently, price) response of other firms in the industry to a change in the output (or price) of the i -th firm. The Lerner index suggests, consistently with our intuition, that excessive or monopoly prices are a function of the price-elasticity, market share and the conjectural variation (Cowling, 1976). In particular, the price-elasticity accounts for the consumer's response to changes in price, while market share and the conjectural variation account for competitors' responses to output (or price) changes.

Clearly, regardless of the specific form—such as brand loyalty or advertising intensity—that a particular instance of monopolistic behaviour assumes, it is clear from the Lerner index that the extent of monopolistic behaviour will ultimately be determined by some combination of two factors, namely market competition and the aggregate (i.e. price- and income-) elasticities of demand. This will be readily apparent

from the observation that advertising intensity is devised to encourage brand loyalty, which may itself be devised as an activity on the producer's or reseller's part to encourage a particular range of values in the price-elasticity of demand for its product. Thus, by the twin processes of reduction and abstraction, the analysis suggests that the various factors which operate on the firm's profitability are, in turn, endogenous to only two factors—price elasticity of demand; and the intensity and proximity of competition.

But the Lerner index may be simplified further, since the intensity and proximity of market competition is not exogenous to the consumer's demand profile. In particular, it may be argued that market or industry competition will themselves operate through the price-elasticity of demand. The endogeneity of industry competition may be seen as follows. It is usual to presume that the disciplining influence of free competition results when a particular firm earns excessive or monopoly profits (Kwoka and Ravenscraft, 1986). Abstracting for the moment from barriers to entry (which are addressed below), the prospect or expectation of profits attracts firms to the industry, which induces the firms within the industry to expand output, eliminating much of the original monopoly rent (Ravenscraft, 1979). Therefore, in this simple case, the extent to which firms will compete for monopoly profits—and therefore the extent to which an existing monopolist will attempt to defend its profits by eliminating competition or erecting barriers to entry—will ultimately be determined by the potential for monopoly profits. But the original potential for excessive profits is determined by the price elasticity of demand, that is, by the consumer's sensitivity to the monopolist's pricing behaviour. The Lerner index presented above suggests, for example, that the ultimate potential for monopoly profits will be constrained by the consumer's original willingness to purchase the good. Therefore, the extent of existing monopoly profits is a function of an exogenous 'potential' for monopoly profits, which is in turn determined by the price-elasticity of demand.

This suggests that the extent of market competition is not independent of the consumer's demand profile, or more particularly, the price elasticity of demand. Adam Smith notes the finality of the consumer's demand profile in these famous words: "The price of monopoly is upon every occasion the highest which can be got ... the highest which can be squeezed out of the buyers, or which, it is supposed, *they will consent to give*" (Smith, 1776: 164, *italics added*). More precisely, Kantor explains that "producers of beer do not only compete with each other, or with the manufacturers, producers and marketers of cider, wine, soft drinks or other alcoholic drinks. They also compete with every imaginable as well as presently unimaginable way in which their potential customers can dispose of their time and money" (Kantor, 1995: 24).

Thus, when determining the potential for monopoly pricing in the South African malt beer industry, there appear to be logically compelling reasons to omit as a redundant variable the extent of directly observable market competition. (The case of indirect competition, or barriers to entry, is addressed below.) That is, the analysis may focus exclusively on the demand profile for malt beer, since the extent of market

competition operates, given monopolistic conditions, through the elasticity of demand. For these reasons, we address our analysis in the following sections to the demand profile for malt beer.

3.1 THE DEMAND PROFILE FOR MALT BEER IN SOUTH AFRICA

Excise related changes in the beer price are separable into two distinct components. Firstly, excise duty influences SAB's profitability through the demand or revenue side, affecting beer consumption and sales revenues through the elasticities of demand, availability of beer substitutes, and so on (Sumner, 1981; Sullivan, 1985). Secondly, excise duty affects SAB's profitability through the supply or cost side, influencing SAB's ability to contain changes in the pure beer price through production efficiencies, technological developments, and so on (Sullivan, 1985). The impact of these components on the consumer and producer will be determined, respectively, by the fraction of excise duties passed over to consumers, in the form of changes in the real beer price, and the fraction covered by the producer, in the form of changes in the pure beer price. In this section, the preceding analysis of the beer price is supplemented by an analysis of the demand profile for malt beer. The supply or cost side of SAB's profitability, which forms the conceptual counterpart to this analysis, will be considered in a later section.

It is important to consider the demand profile for beer for two reasons. Firstly, it has not yet been established whether sharp increases in excise duty have the potential to affect seriously SAB's financial viability; the analysis has merely established a close link between government's excise duty and the beer price. In particular, a direct link between government's excise duty and SAB's financial performance is possible only if beer consumption is sensitive to changes in the beer price. That is, the possibility has not yet been excluded that beer consumption is insensitive to changes in the beer price. In the extreme case, SAB's financial performance would then be unaffected by (even extraordinary) changes in excise duty. Secondly, it will be important to consider the demand profile for beer since, as will be seen below, this approach leads us directly to the second of SAB's primary claims, namely that government applies excise duties in favour of wine and spirits, at the expense of beer. For two reasons, then, the analysis examines the various elasticities of demand for beer—that is, the extent to which beer drinkers, following an increase in income or in the beer price, substitute the consumption of other goods and services for the consumption of beer.

In estimating the elasticity of demand for beer, it may seem appropriate to investigate the relationship between the variables directly—that is, between beer consumption, disposable income, the beer price, and the prices of substitute beverages. The direct relationships among these variables are presented in Output 3.

OUTPUT 3. BEER CONSUMPTION AND THE NOMINAL BEER PRICE, 1961 – 1996.

LS // Dependent Variable is Beer Consumption			
Range: 1959 - 1995		Format: Annual percent change	Number of observations: 37
Independent variable	Coefficient	Two-tailed significance level.	
Constant	4.691495	0.001	
Nominal Beer Price	-1.1452205	0.034	
Nominal Private Spending	-0.4197213	0.344	
R-squared	0.149302	Mean of dependent var	11.54935
Adjusted R-squared	0.099261	S.D. of dependent var	13.14971
S.E. of regression	12.48004	Sum of squared resid	5295.543
Durbin-Watson stat	2.445570	F-statistic	2.983585

Quantitative estimates of the direct relationships between beer consumption, disposable income, the beer price, and the prices of substitute beverages, are presented in Output 3, which indicates that a direct approach is inappropriate. Firstly, the estimated income elasticity of beer demand is statistically insignificant (34% p -level). Secondly, the beer price and private consumption expenditure, taken together, account for only one-seventh ($R^2 = 0.149$) of the variation in beer sales. Thirdly, the parameter on the nominal beer price—that is, the estimated price-elasticity of demand for beer—is significantly different from zero, but not significantly different from one, which represents the unitary or “benchmark” elasticity. Thus, the direct estimation of price- and income-elasticities of demand for malt beer appears to be inappropriate.

The poor performance of nominal income and beer prices in describing the variation in beer consumption may be explained by two factors. Firstly, the consumption of beer is determined by a range of factors which include, but are certainly not limited to, disposable income or the beer price. Important ancillary variables include government prohibitions on beer consumption, and average annual summer temperatures (which are exogenous to the consumer’s demand profile), and pure marketing considerations such as the size and coverage of SAB’s distribution network (which is an endogenous variable). Although it will usually be desirable to incorporate these and other omitted variables in a more properly specified model of the beer price, or to specify appropriate proximate measures, the more usual adjustments for these auxiliary variables are unlikely, in this case, to improve the estimated elasticities significantly.

Consider, for example, government restrictions on the consumption of alcoholic beverages by Blacks. Since these prohibitions were lifted in 1962, it may appear, at first, that differences between pre- and post-1962 beer consumption may be captured with a simple “dummy” variable. However, this approach will not be empirically feasible, since related variations in unobservable or inestimable factors—such as

“moonshining” production and illegal beer consumption by Blacks—are not expected to affect beer sales volumes in a straightforward way. That is, although the political factors affecting beer consumption changed discretely in 1962, when Blacks were legally allowed to consume alcoholic beverages for the first time, consequent changes in the composition of beer demand are expected to be more complex and diffuse.

This type of complexity is highly problematic for an estimated model of beer consumption, since considerations of this kind suggest that the parameters of interest—namely demand elasticities—are not constant over any reasonable period of time. Another reason that we do not expect the variation in beer consumption to be fully described by nominal income and beer prices is the phenomenal growth in beer consumption, particularly since 1980. In particular, beer sales growth that is unrelated to changes in the relative price of beer—or the real incomes of consumers—suggests that the demand profile for malt beer has itself undergone distinct changes, perhaps even in irregular and obscure ways. As a result, factors that operate through income and prices—such as advertising—will bear a complex relationship to beer demand. For these reasons, the usual econometric adjustments and specification improvements will not make any meaningful contribution, at least in this case, to the estimates of the demand elasticities derived above.

The second factor resulting in the poor explanatory power of beer prices and disposable incomes is a technical consideration peculiar to simultaneous equation systems. For example, an econometric model of interdependent phenomena would usually be expected to specify the different relationships separately, particularly when the phenomenon of interest (in this case, beer consumption) has a single, mutual determinant (price), and a single, joint representation (volume). In particular, simultaneity is expected to introduce bias and inconsistency in the parameter estimates of interest (Pindyck and Rubinfeld, 1991). Thus, the econometric model presented in Output 3 would, at first, appear to be inappropriate, since the demand and supply of malt beer are interdependent phenomena mutually determined by the beer price, and jointly represented in market equilibrium by beer sales. In our case, the problem would appear to be particularly acute since, in evaluating the different demand and supply effects on beer sales, we aim to distinguish, further, between the impact of price and income changes.

But for our purposes, an adjustment for this familiar econometric difficulty will not improve our model meaningfully. The preceding analysis has shown, for example, that the demand for malt beer is given by the real or “consumer” beer price, while the supply of beer is given by the pure or “producer” beer price, the difference being made up of changes in excise duty. Assuming that annual excise changes are random—or at least unpredictable, as the exogeneity of government’s excise policy appears to suggest—beer demand and beer supply are not mutually determined by a *single* beer price. Rather, since a distinction may be drawn between the consumer and producer prices of beer, the demand and supply of malt beer may be treated, at least for econometric purposes, as partially independent phenomena. The preceding analysis has shown that government excise duties account for a significant degree of this

independence. For this reason, a model of beer demand recovers an important degree of freedom, since the possibility of mistaking equilibrium quantities demanded with equilibrium quantities supplied is, in the case of beer demands and supplies, significantly reduced. Similarly, SAB holds significant investments in inventories of finished products—around 30% of current assets (SAB, 1980-1993)—which suggests that a clear empirical distinction may be drawn between beer production and beer consumption.

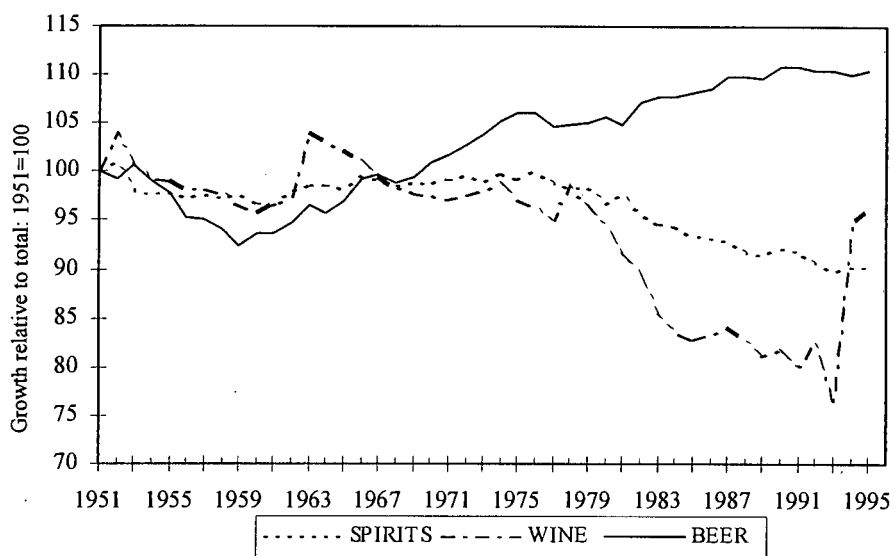
For two reasons, then, the regression model presented in Output 3 appears to be appropriately specified, despite the poor performance of income and beer prices in explaining the variation in beer consumption. However, the poor explanatory power of this regression model will not be useful for our purposes, since the analysis aims to attach some significance to the estimated values of the parameters. (In particular, the incentives for monopolistic behaviour are smaller the higher are the price- and income-elasticities of demand.) But since the price- and income- elasticities of demand for malt beer are not directly or obviously observable from the above regression model, this direct approach to the estimation of demand elasticities does not appear to be meaningful. Therefore, the analysis in the following section approaches the estimation of demand elasticities indirectly.

3.2 AN ALTERNATIVE ESTIMATION OF THE DEMAND PROFILE FOR MALT BEER

The preceding section has shown that an indirect approach is necessary to evaluate the demand elasticities for malt beer. In this section, these elasticities are estimated by considering the relationships among the different classes of alcoholic beverage, namely, beer, wine and spirits. As will be seen below, this approach has the additional advantage of leading our analysis directly to SAB's claim that the government applies excise duty against beer in favour of wine and spirits.

Data on fiscal excise revenues for the period 1951 to 1995 are presented in Figure 2. The following observations may be drawn from these excise revenue patterns. Firstly, between 1951 and 1969, the proportion of excise revenues accounted for by duties on all alcoholic beverages generally declined. That is, for nearly two decades, fiscal excise revenues from spirits, wine and beer generally grew at a slower rate than total (beverage plus non-beverage) excise revenues. Secondly, Figure 2 indicates that—in 1959 for beer and in 1979 for wine and spirits—this pattern changed dramatically; in 1959, the proportion of total excise revenues accounted for by beer began to accelerate sharply; and since 1979, the proportions of government excise revenue accounted for by spirits and wine have decreased—in the case of wine, the decline has been dramatic.

FIGURE 2. EXCISES COLLECTED ON SPIRITS, WINE AND BEER, 1951 – 1995.



Taken together, these observations suggest that on two different occasions in the past, government's overall excise policy stance toward alcoholic beverages changed distinctly. In particular, Figure 2 suggests that the 1959 change in government's excise stance prejudiced beer, whereas the 1979 change in government policy favoured wine. In recent years, government's historical excise stance in favour of wine has changed significantly. Figure 2 indicates, for example, that excise revenues collected on wines increased by 200 percent in 1994; and in the same year, the wine producers' co-operative—the Ko-operatiewe Wijnbouwers Vereniging van Zuid-Afrika Beperkt, or "KWV"—lost its statutory authority to determine minimum wine prices. It is interesting to note that the government's recent excise policy "shift" coincides neatly with the emergence of a new system of political authority in South Africa. For the moment, it will be useful to highlight the point that government's excise revenues from beer have, since 1968, consistently exceeded the growth of total excise revenues.

Thus, not only has malt beer, since 1959, become an increasingly important source of total government revenue, but government's treatment of beer has not been matched with equal treatment of wine and spirits. SAB phrases the problem as follows: "It is disturbing that the question of imposing excise equitably on all alcoholic beverages has so far been ignored ... [B]oth natural wine and sorghum beer have once more escaped attention in the [latest] excise increases" (SAB, 1988: 16). As the analysis has shown, Figure 3 confirms SAB's charge of asymmetric excise duties, against beer, in favour of wine and spirits. Thus far, in fact, our analysis has confirmed two of SAB's claims: firstly, government's excise stance is a significant determinant of the malt beer price in South Africa; and secondly, government has not applied equal treatment to the different alcoholic beverages, particularly at the expense of beer.

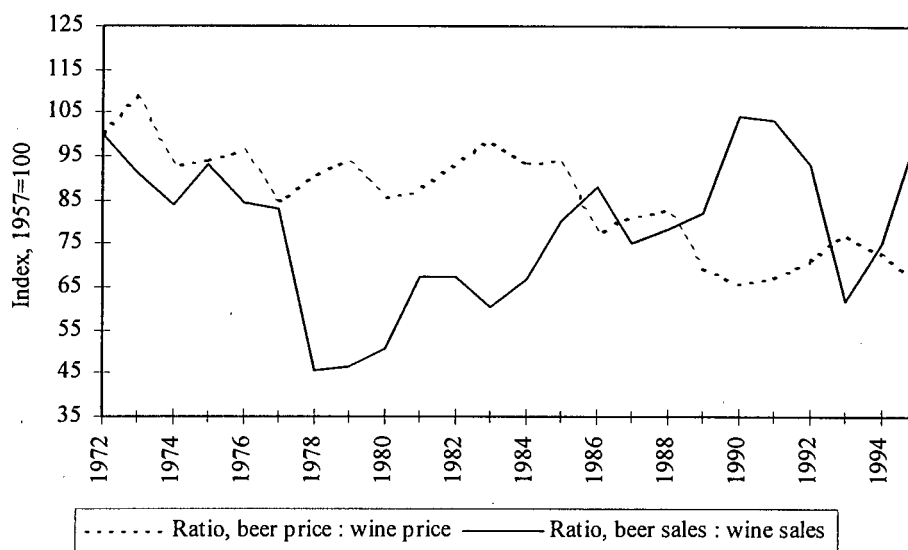
Whether the substantial increases in excise duty on beer during the 1950s justify the 1956 beer industry merger—or whether the government’s asymmetric application of excise duties justifies SAB’s eventual diversification into wine and spirits—depends on the price, cross-price and income elasticities of demand for malt beer. For it will be reasonable to conclude that excise duties account for SAB’s current dominant position in the malt beer industry, or its conglomerate diversification into the wine and spirits industries, *only* if a definite positive relationship is found between beer consumption and the beer price, and also between beer consumption and the prices of wine and spirits. Clearly, in the absence of a direct relationship between beer prices and beer consumption (which may be the case if beer consumption is price-inelastic), it will not be plausible to propose a direct relationship between excise duties and SAB’s financial performance.

Having established the crucial significance of the price elasticity of demand for beer, and having suggested that the elasticity is not directly observable or estimable, at least in this particular case, it will be useful to proceed indirectly, by estimating the relationship between beer consumption and the prices of wine and spirits. The usefulness of this approach is derived from the fact that a sense of the price- and income-elasticities of beer demand will be directly available from the cross-price elasticities of demand between beer and its close substitutes. In particular, the price elasticity of demand for malt beer must be negative if the cross price-elasticity of demand for beer is negative. This result follows directly from the symmetry of relative prices, and also from the definition of elasticities in terms of relative prices: if an increase in the relative price of wine (or spirits or soft drinks) leads to an increase in the consumption of beer, then an increase in beer consumption will follow also from decreases in the beer price.

The preceding analysis, and the observations drawn from Figure 2, represent a distinct empirical opportunity in this regard. In particular, two approaches recommend themselves. Firstly, it is possible to investigate those historical instances where government’s excise policy—that is, when *relative* excise duties on the various alcoholic beverages—underwent distinct changes. For if there is any considerable degree of “substitutability” between the different alcoholic beverages—in which case the cross-price elasticities among them will be distinctly negative, and then the price-elasticities will be negative as well—then sharp increases in the excise duties levied on one alcoholic beverage (relative to the excise duties levied on all other beverages) will be accompanied by sharp decreases in the relative consumption of all other alcoholic beverages. Secondly, it is possible to investigate the direct relationship between the relative prices of wine and beer, and the relative consumption of wine and beer. As has been seen, the two are not independent, since beer and wine prices are dominated by the influence of government excise duties.

The substitutability between wine and beer consumption is represented in Figure 3, which depicts the time path of the price of beer relative to wine, and the time path of the consumption of beer relative to wine.

FIGURE 3. THE SUBSTITUTABILITY BETWEEN WINE AND BEER.



A distinction cannot be drawn, from Figure 3 alone, between changes in the relative consumption of beer and changes in the relative price of wine. Such an inference would require detailed information about a wide variety of factors—mainly the changing tastes of consumers—and since this particular aspect of the consumer demand profile is difficult to quantify (and the data have not been collected for South African consumers over any satisfactory period of time), this is clearly impractical. Thus, a limited degree of significance should be attached to the observation that the relative consumption of beer has increased markedly between 1980 and 1996, and that the relative excise duties levied on wine have decreased sharply over the same period.

For the above reasons, a limited degree of significance should be attached to the overall trends in relative beer consumption and relative excise duties. Rather, only those periods where government's excise policy underwent discrete changes should be examined. In particular, these "breaks" in government's excise stance will offer significant insights into the impact of discrete changes in excise duty on the consumption of alcoholic beverages—assuming, of course, that consumer demand profiles for alcoholic beverages are relatively stable (at least, not wildly erratic) over the short term, say from one year to another. In particular, assuming the consumer's relative preferences for the different alcoholic beverages *are* relatively stable, then distinct changes in the relative excise levied on beer accompanied by distinct changes in the relative consumption of beer, particularly over a short period of time, may be interpreted as a purely price-related change in the pattern of consumption. In effect, the analysis has "controlled" for the complicating influences of changing tastes (by examining only the very short term) and non-price related changes in the

aggregate beer consumption (by examining discrete changes in excise duty). That is, the analysis has effectively isolated changes in the consumer demand profile for alcoholic beverages related purely to changes in relative prices.

In a previous section, it was noted that excise duties on alcoholic beverages underwent distinct changes on three occasions, namely, 1959 (which prejudiced beer), between 1978 and 1979 (which favoured wine) and the period between 1991 and 1994 (which significantly prejudiced wine). Thus, a significant decline in the *relative* consumption of beer should be expected in 1959, a significant increase in (relative) wine consumption in 1979, and a significant decline in the (relative) consumption of wine in 1994. Indeed, Figure 3 indicates that this is the case: in the same years that these distinct changes occurred in government's excise stance, relative consumption of the different alcoholic beverages also changed distinctly. This suggests that the consumption of alcoholic beverages—beer, wine and spirits—is extremely sensitive to changes in the relative prices of the various alcoholic beverages. In line with our earlier analysis, the conclusion appears to be that beer consumption is highly cross-price elastic and, therefore, that beer consumption is extremely price-elastic.

Following from the above, the following general observations may be drawn. Firstly, the analysis is now entitled to justify SAB's claim that the significant excise increases between 1950 and 1957 affected its financial performance, since beer consumption is affected to a significant degree by changes in the beer price. In particular, ^{something like honest} the existence of a direct relationship between beer prices and beer consumption makes it plausible to propose a direct relationship between excise duties and SAB's financial performance.

Secondly, we are also entitled to justify SAB's claim that the government's significant and consistent excise stance against beer, in favour of wine and spirits, justified the company's horizontal diversification into the wine and spirits industries. That is, the definite relationship established above between beer consumption and wine prices suggests that SAB was able to avoid the government's asymmetric application of excise duties against beer, and to benefit from the beneficial excise stance in favour of wine, by diversifying into the wine and spirits industries. Finally, it should be noted that the conclusion that beer demand is highly sensitive to changes in the beer price is not consistent with the usual notion of monopolistic conditions. In particular, the higher is the price-elasticity of beer demand, the smaller is SAB's incentive to behave monopolistically. This conclusion is obviously important for the hierarchy of empirical conditions proposed at the outset, namely, that monopolistic behaviour is impossible where there is no economic incentive to behave monopolistically.

3.3 COST AND SUPPLY CONDITIONS IN THE MALT BEER INDUSTRY

As noted earlier, excise related changes in the beer price are separable into two distinct components. Firstly, excise duty influences SAB's profitability through the demand or revenue side, affecting beer

consumption and sales revenues through the elasticities of demand, availability of beer substitutes, and so on. Secondly, excise duty affects SAB's profitability through the supply or cost side, influencing SAB's ability to contain changes in the pure beer price through production efficiencies, technological developments, and so on.

The previous section examined the relationships between the different classes of alcoholic beverage. Two of our conclusions—namely, that government's excise policy has been applied in favour of wine and spirits at the expense of beer, and that beer demand is sensitive to changes in the prices of both beer and substitute alcoholic beverages—lead the analysis to several suggestions, both of which are consistent with SAB's claims. Firstly, it appears that government's asymmetric treatment of the different alcoholic beverages has affected SAB adversely, since the analysis suggests that beer consumption is sensitive to changes in the relative prices of beer and substitute beverages. Secondly, the analysis suggests that SAB was able to avoid, at least partly, the adverse effect on its financial performance by diversifying horizontally, specifically into the production of wine and spirits. SAB's conglomerate diversification strategy—which is not limited to SAB's involvement in the wine and spirits industries—is examined in more detail in a later chapter.

In the present section, the preceding analysis of the demand profile for malt beer will be supplemented by examining the supply or cost side of SAB's profitability. In particular, the following sections consider how SAB has been able to avoid, independently of its horizontal diversification, the impact of successive increases in excise duty. Since malt beer production represents the bulk of SAB's operations, it is necessary at this point to explain how SAB has been able to overcome the significant effect of government's excise duty on its profitability.

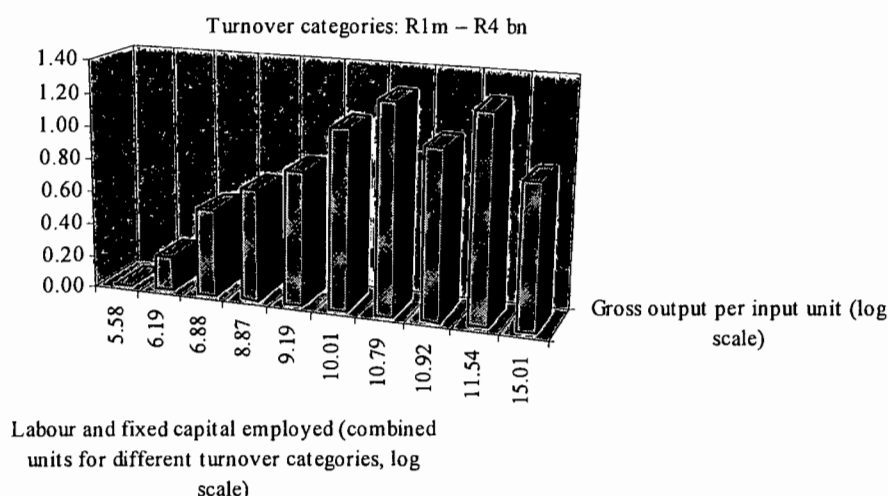
3.3.1 RETURNS TO SCALE FOR THE SOUTH AFRICAN BEVERAGE INDUSTRY

The first explanation is returns to scale, that is, the technological relationship between production yields and physical inputs. In terms of the ordinary conception of the term, a firm or plant experiences economies of scale if, merely by expanding the volume of inputs, its production yield increases in a greater proportion than the original increase in inputs. That is, for a vector of inputs x and an output level $y = f(x)$, returns are said to be increasing, decreasing or constant as $f(kx)$ is greater than, smaller than, or equal to $k f(x)$. This definition of economies of scale suggests that, by modeling outputs y using inputs x , and estimating the relationship between y and x , the analysis is able to establish whether a firm is able, by increasing the volume of inputs, to increase its output yield by a greater proportion than the original increase in inputs.

Although this definition of economies of scale is inappropriate for our purposes, because it does not take account of the cost advantages implicit in the scale of manufacturing operations, it may be used to gain a

sense of the overall pattern of production in the beverage industry. Cost advantages will be incorporated into a more properly specified measure of scale economies below. But for the moment, it will be useful to consider only the broad outline of scale economies in the South African alcoholic beverage industry. Figure 4 depicts the relationship between output yields and input scale for 1991—the latest year for which industrial census figures are available—for the beverage industry. Note that output yields are devised as gross output per “combined” unit of labour and capital. That is, to standardise for the capital and labour intensities of different manufacturing processes in the beverage industry, the units of our analysis have been adjusted for labour employment and the stock of fixed capital.

FIGURE 4. ECONOMIES OF SCALE IN THE BEVERAGE INDUSTRY, 1991.



An interesting feature of Figure 4 is the apparent quadratic relationship between inputs and output in the beverage industry. This suggests that, as combined inputs of capital and labour increase, gross output increases, first in a greater proportion than inputs, then in the same proportion as inputs, and eventually in a smaller proportion. But while the quadratic functional form may be conceptually appropriate for a single production process, Figure 4, which represents the entire beverage industry, combines several production processes. And in the beverage industry, it will not be appropriate to aggregate the manufacturing processes used to produce such distinct products as beer, wine, spirits and carbonated soft drinks. (A similar conclusion would appear to apply to the aggregation of economies of scale data for the entire economy; see for example Reekie, 1984b. For a more recent view, see Bertin, Bresnahan and Raff, 1996). Thus, since Figure 4 represents a composite of several unique manufacturing processes, we should not attribute too much extrapolative significance to the overall quadratic relationship reported above. Effectively, the quadratic relationship identified above suggests only that a cross-section of the separate

activities that constitute “the beverage industry” may be characterised by wide differences in the economic significance of scale effects.

But despite this limitation on the broad conclusions that may be drawn from Figure 4, the following observations may be made. Firstly, larger firms in the beverage industry have a distinctly greater “output productivity” than small firms. Wine producers, for example, which typically produce on a relatively small scale and will consequently be located further to the left in Figure 4, have a lower ratio of outputs to inputs than the producers of beer or carbonated soft drinks, which produce on a significantly larger scale and will therefore be located on the far right in Figure 4. Hawkins and Radcliffe note, for example, that “there are certain technological and distributional factors in the brewing industry which have always tended to encourage the development of large-scale units. The advantages of large-scale production are nowhere so apparent as in brewing which has long been a highly capital-intensive industry and where the same labour force can produce increasing quantities of beer at cheaper and cheaper costs per barrel” (Hawkins and Radcliffe, 1971: 22). In other words, firms situated in the output range between R10m and R200m in Figure 4 generally experience smaller production levels, per unit input of labour and fixed capital, than firms situated in the output range between R200m and R4bn. Thus, in terms of the usual conception of the term “returns to scale”, the beverage industry as a whole may, over a substantial part of its production range, be characterised by increasing returns to scale, if only in the limited sense discussed above.

The second observation that is evident from Figure 4 is that (increasing) returns to scale do not exist uniformly over the entire range of output in the South African beverage industry. In particular, there are no obvious returns to scale in the range between outputs of around R1bn and R4bn. Beyond this range, in fact, it appears that returns to scale may be declining slightly. And since SAB is situated within the latter region of production—over the period considered in Figure 4, SAB’s beer division had a turnover of around R4.9bn—it will be necessary to use a more direct and conceptually appropriate measure of economies of scale in beer production. The present section estimates SAB’s “cost function” economies of scale.

3.3.2 ECONOMIES OF SCALE IN THE PRODUCTION OF MALT BEER

The usual conception of returns to scale is the more restrictive “technological” economies of scale, given by the mathematical formulation

$$e = x_i(y/x_i)/(y/x),$$

where x and y represent volumes of inputs and outputs, respectively, and the subscript i denotes the i -th firm in the j -th industry (Schmalensee and Willig, 1991). This relation states that where the output-input

ratio for firm i exceeds the output-input ratio for the industry as a whole, this firm (more precisely, plant) is said to exhibit increasing returns to scale. However, this conception of economies of scale is not very useful for our purposes. Firstly, this measure has limited empirical significance, since there is no firm in the malt beer industry with which to compare South African Breweries. SAB may for many practical purposes be regarded as the sole supplier of malt beer in South Africa and, therefore, as the entire industry. Thus, technological measures of scale economies are indeterminate in this particular case. Secondly, this formulation of scale economies is devised in terms of input and output *volumes*, whereas the notion of returns to scale, intuitively, requires a formulation in terms of *costs*. The analysis turns, then, to a measure of economies of scale that overcomes both of these difficulties, namely, “cost function” economies of scale. It is possible to reduce the concept of cost function economies of scale to a single, empirically estimable parameter, the elasticity of scale, e :

$$e = (MC-AC)/y = dAC/dy,$$

where y represents production values, and AC and MC represent average and marginal production costs, respectively, for the i -th firm in any given industry (Schmalensee and Willig, 1991). Where e is smaller than unity, a one-percent increase in output produces a proportionately smaller increase in average costs, in which case the production process that generates e is said to exhibit economies of scale in production. By contrast, diseconomies of scale exist where e is greater than unity, that is, where a one-percent increase in output results in a relatively larger increase in average costs.

To gain a sense of the cost function economies of scale for the South African Breweries’ beer division, it will be useful—though not always necessary (Rosse, 1970)—to establish the general pattern of average costs in the beverage industry. The data were collected from successive issues of the Census of Manufactures between 1950 and 1964 (Department of Statistics, 1961-1991), the only period for which a consistent data series for costs is available for the beverage industry in South Africa. However, the sample period does not represent a significant problem for our analysis, since the analysis is concerned particularly with the period when SAB acquired its status as single supplier of malt beer in South Africa, namely, the period between 1955 and 1957. Indeed, for our purposes, the two sample periods coincide neatly.

TABLE 2. BEVERAGE INDUSTRY PRODUCTION COSTS, 1951 – 1991.

Year	Ratio of direct production costs (excluding labour) to gross output			
	Beverage	Distilleries	Malt and	Aerated and
1951	0.56	0.80	0.26	0.38
1952	0.54	0.81	0.29	0.36
1953	0.58	0.80	0.33	0.37
1954	0.55	0.78	0.26	0.36
1955	0.62	0.75	0.30	0.43
1956	0.63	0.78	0.28	0.45
1957	0.61	0.69	0.51	0.50
1958	0.60	0.69	0.52	0.50
1959	0.63	0.71	0.54	0.52
1960	0.63	0.70	0.58	0.50
1961	0.65	0.73	0.59	0.47
1962	0.62	0.71	0.48	0.47
1964	0.62	0.71	0.49	0.48
1972	0.61
1982	0.65
1991	0.54	0.59	0.49	0.56

The profile of average manufacturing costs for the different sectors in the South African beverage industry is presented in Table 2. Note that “input costs” are devised as the costs of processing inputs of raw materials. This seems a reasonable conception of costs since there do not appear to be any obvious economies of scale from the use of direct labour—the only other important direct manufacturing input—in the sort of manufacturing processes involved in the production of malt beer. For the sake of completeness, the following econometric analysis includes direct labour costs. But for the moment, it will be sufficient to consider only raw materials processing costs.

Table 2 indicates the following. Firstly, for the beverage industry as a whole (column 1), no obvious pattern is evident from the ratio of direct input costs to gross output over the period between 1951 and 1991. In the aggregate, the cost of processing raw materials for the beverage industry was a reasonably stable proportion (60-65%) of gross output between 1951 and 1964, declining by roughly 8% between 1964 and 1991. Secondly, direct input costs for distilleries and wineries appear to have declined rapidly between 1951 and 1991; for example, materials processing costs accounted for around 80% of gross output in the early 1950s, whereas the proportion more recently has been less than 60%. Thirdly, materials processing costs for carbonated soft drinks manufacturers have increased steadily from around 40% of gross output in 1951, to around 60% in 1991.

Table 2 indicates, however, the pattern for the malt and sorghum beer brewing industry is completely different from the general trends in direct input costs for the other sectors in the beverage industry. In particular, the cost of processing raw materials for the beer brewing industry (in other words, South African Breweries) increased dramatically in 1957, from an average of around 29% of gross output between 1951 and 1956, to around 53% of gross output between 1957 and 1991. This represents a distinct increase of more than 80% in the single year between 1956 and 1957, the same year, incidentally, in which a “monopoly” was formed in the South African beer industry. In addition, it is interesting to note that no considerable progress has been made—either contemporaneously with the 1956 beer industry merger, or since the merger—in reducing the average processing costs for raw materials in the malt beer industry.

The significant increase in 1956 in the cost of processing raw materials in the beer brewing industry is an interesting observation in its own right, particularly since this large increase in the direct costs of manufacturing beer occurred in the same year as SAB gained its “monopoly” position in the malt beer industry. However, it would not be correct to infer diseconomies of scale in beer production merely because input costs increased dramatically simultaneously with the 1956 beer industry merger. That is, this observation should not be taken as evidence that economies of scale do not exist in the production of malt beer. Recall, for example, that the mathematical formulation for cost function economies of scale is derived, not from the profile of average costs themselves, which have been the subject of the preceding analysis, but from the parameter e , which is given by the relationship between average costs and output, dAC/dy . In Output 4, below, this formulation is used to estimate the parameter e .

OUTPUT 4. COST FUNCTION ECONOMIES OF SCALE IN BEER PRODUCTION.

LS // Dependent Variable is Average Input Costs (raw materials plus labour)			
Range: 1951 - 1964		Format: Logarithms of annual values	Number of observations: 14
Independent variable	Coefficient	Two-tailed significance level.	
Constant	-8.0749571	0.001	
Value of Beer Output	0.4537565	0.001	
R-squared	0.629451	Mean of dependent var	-0.577793
Adjusted R-squared	0.595765	S.D. of dependent var	0.208936
S.E. of regression	0.132841	Sum of squared resid	0.194113
Durbin-Watson stat	0.803092	F-statistic	18.68568

The elasticity of scale e estimated in Output 4 appears to be highly significant (.1% p -level) and substantially smaller than 1 (0.45). Thus, a one-percent increase in the value of output appears to be associated with a smaller-than one-percent (0.45%) increase in total average costs (defined as the cost of

processing raw materials, plus the cost of labour directly involved in the process of manufacturing). In line with the preceding analysis, this observation may be interpreted as evidence that the manufacturing processes used to convert raw material and direct labour inputs into malt beer are characterised by increasing returns to scale. In particular, a unit increase in the value of output is associated with a proportionately smaller increase in the costs of manufacture.

From the evidence assembled to this point, the following interesting conclusion may be drawn: increasing returns to scale form the underlying mechanism by which SAB has historically been able to absorb increases in government excise duties. In particular, SAB is able to absorb excise increases in one of three logically comprehensive ways: by passing excise increases onto the consumer (through a higher beer price); by absorbing excise increases itself (through reduced profitability); and by reducing the costs of manufacture (by continuous improvements in the company's manufacturing technology). But as the analysis has shown, SAB has consistently failed to pass the full impact of excise increases onto the consumer, largely on account of the beer drinker's sensitivity to changes in the real beer price. And as we shall see in a later chapter, SAB is an immensely profitable business, which suggests that the company has not absorbed increases in excise duties—at least not through any significantly reduced degree of profitability. Rather, the preceding analysis indicates that excise increases have consistently been absorbed by economies of scale, that is, by improved technological and operational efficiencies in SAB's manufacturing processes. This suggests, in turn, that excise duties have formed a significant impetus behind the current single supplier position in the South African beer industry; and increasing returns to scale have provided the means whereby SAB has been able to achieve this dominant position.

3.4 THE POSSIBILITY OF MONOPOLISTIC BEHAVIOUR IN THE BEER INDUSTRY

The previous sections have considered SAB's incentive to behave monopolistically in the South African malt beer industry. The analysis examined, first, the demand side of SAB's incentives to behave monopolistically in setting the beer price, and established that the consumption of beer is highly sensitive to changes in the beer price. On account of the price-elasticity of demand for malt beer, this observation appears to suggest that SAB's incentives to inflate the price beyond the consumer's ordinary willingness to pay would be detrimental to its business, since the influence of a price change on consumption volumes will dominate the associated revenue effects completely.

Secondly, the analysis examined the supply conditions underlying SAB's incentives, and established that significant economies of scale exist in the manufacture of malt beer. This suggests that SAB has an unequivocal incentive to expand production, which we see immediately is contrary to the notion of limiting sales and, therefore, contradicts the usual conception of monopolistic behaviour framed earlier. In addition, the argument suggested that SAB was able to overcome the significant impact on the beer price of

government excise duties by expanding production, largely on account of the production efficiencies, and therefore cost advantages, that accrue to the firm from large-scale production. Thus, from the perspective of both demand and supply side incentives, SAB has an unambiguous advantage from behaving counter-monopolistically.

4. BARRIERS TO ENTRY IN THE MALT BEER INDUSTRY

The previous analysis made only passing references to entry barriers in the South African malt beer industry. In addition, no single reference has been made to any particular entry barrier, and our efforts have been spent addressing the other factors which are normally associated with the incentives and ability to behave monopolistically. In terms of the conditions for monopolistic behaviour posed at the outset, this approach has not been inappropriate—barriers to entry are a “higher order” issue in monopolistic behaviour, and as has been seen, monopolistic conditions in the malt beer industry may in large part be successfully and comprehensively addressed without resorting to anything more than a lower level issue, such as demand elasticities and scale economies. That is, in the absence of evidence of a distinct incentive—or indeed the ability—to behave monopolistically, a separate analysis of barriers to entry would sit awkwardly in the broader analysis; market or industry barriers to the entry of competing firms are obviously irrelevant in an industry where the intensity and proximity of competition are themselves irrelevant. But for the moment the analysis addresses itself to entry barriers in the South African malt beer industry, since the respectability of this area of research in industrial economics suggests that no analysis will be complete without explicit account of this vital aspect of market competition (Baumol, 1989); and since, together with single supplier conditions and the absence of substitutes, entry barriers form part of the basic triplet of necessary conditions for the identification of monopolistic conditions. In general, the following remarks will be satisfactory.

The various conclusions drawn throughout this chapter entail several interesting implications for entry barriers as the “final case” of monopolistic behaviour. Specifically, it should be noted that the significance of excise duties, outlined throughout the analysis, will automatically extend not only to SAB but also to any potential beer producer in South Africa. That is, government excise policies will affect all firms currently operating in, and also to all firms planning at some future date to enter, the South African beer industry. In an important sense, then, the government itself represents an important barrier to entry, which entails an important implication for the beer market’s “contestability” (Baumol, 1989). But it has been shown earlier that SAB has historically been able to avoid passing excise increases onto the beer consumer because the company’s manufacturing processes are characterised by increasing returns to scale. Economies of scale, of course, embody the technological and operational incentives to expand production.

And the impetus that sets these incentives into operation is derived in large part from the joint impact of price-sensitive consumers and continuous increases in excise duties on South African beer prices.

Thus, so far as barriers to entry actually exist in the South African beer industry (and for reasons explained above, our analysis has not addressed itself to any level of detail on this particular point), the government itself constitutes a significant barrier to entry in this industry, primarily on account of the scale of operations required to absorb excise increases successfully. Taken to an extreme, for example, continuous increases in excise duty are consistent with a continuously expanding scale of operations (up to some technological limit, of course). And in a relatively small domestic market, particularly for a manufacturing process characterised by increasing returns to scale, there might plausibly be room enough for only one supplier. Thus, a significant entry barrier may exist in the South African beer industry, in the form of the scale of operations required to absorb government excise duties. But in the more restricted sense of the term intended here, this particular entry barrier does not appear to entail any practical consequences for SAB's competitive position in the South African malt beer industry. Thus, apart from the ultimate decisiveness of the consumer, the government's excise policy on alcoholic beverages, and the consistent increases in efficiency required to contain continuous increases in excise duties, have come to substitute, in a sense, for the extent of market competition which might reasonably have been expected under alternative, multi-supplier conditions.

5[CONCLUDING REMARKS]

This dissertation has been concerned with an explanation of SAB's superior historical financial performance. In particular, we aim to relate the superior profitability of this, South Africa's largest single industrial enterprise, with the "triplet" of market and corporate strategies identified earlier, namely monopolies, conglomerates, and pyramids. The present chapter considered the first of these factors, the "monopoly" or single-supplier position in the South African malt beer industry. The remaining features of the SAB group will be addressed in later chapters. For the moment, the analysis aims only to establish whether SAB may be characterised as a monopoly; whether competitive and other pressures exist in the South African malt beer industry to prevent the emergence of monopolistic conditions; whether these competitive pressures apply to SAB; and whether SAB's profitability in the malt beer industry may accordingly be described as 'excessive'. In brief, this chapter has examined the link between SAB's long history of consistently superior financial performance, and allegations of monopolistic behaviour in the South African malt beer industry.

At the outset, "monopolistic behaviour" was defined from a broad, essentially empirical perspective. In particular, the argument suggested that claims of monopolistic behaviour are sensible *only* if a firm has

both an incentive and the ability to behave monopolistically. As is customary in the mode of analysis that distinguishes economics from other disciplines, the assumption has been made here that behaviour will be limited by the usual twin restrictions, namely the ability and incentive to behave in any particular way. In the preceding sections, where we considered SAB's incentive and ability to behave monopolistically in the South African malt beer industry, this mode of analysis was applied to SAB. The analysis suggested the following main conclusions.

Firstly, SAB is unable to behave monopolistically, at least to any extraordinary extent, in the South African malt beer industry. In particular, SAB is free to determine unilaterally only around one-quarter of the beer price. Since the impact of excise duties on the beer price appears to be highly significant, and since SAB's potential for monopolistic pricing behaviour would be expected to operate in the "gap" between government excise duty and the real beer price—that is, in the proportion of beer prices that are not determined by government excise duties—SAB's incentive to exert any significant degree of influence over the market price of beer appears to be limited by the modest degree of monopoly rents that it might expect from manipulating the beer price. But in addition, our analysis has suggested that the modest degree of monopoly rents is itself limited, in the case of SAB, since a direct relationship could not be firmly established between the more usual determinants of monopolistic pricing behaviour, such as demand elasticities and output variations, and the South African malt beer price. It should only be noted that a confirmed relationship of this kind would appear to be necessary for any substantial monopolistic influence over the beer price.

Secondly, SAB does not have an obvious incentive to behave monopolistically in the South African malt beer industry. For example, the consumption of liquor is sensitive to price competition between the different alcoholic beverages, particularly changes in relative prices; beer consumption is highly sensitive to changes in the beer price; government excise duties have impacted negatively on beer consumption, in terms of both absolute and relative alcohol consumption; and therefore, SAB has a continuously operating incentive to reduce the relative price of malt beer. In particular, cost and technological features of beer production, as measured by economies of scale, are such that SAB has an unambiguous incentive to expand output.

Since SAB does not appear to have either an extraordinary ability or a significant incentive to influence beer prices or beer production monopolistically, the tentative conclusion may be offered that the SAB group's profitability may not be ascribed to its apparent monopoly position in the South African malt beer industry. As the analysis has shown, the company's influence over the beer price is severely circumscribed by the dominant influence of government's excise policy, while the company's production incentives are unambiguously in favour of expanding, not restricting, output.

A criticism may be offered, at this point in our analysis, that the analysis has not been comprehensive. We have neglected to consider systematically, for example, the many possible counter-claims of monopolistic behaviour, such as barriers to entry in the local beer industry, the contestability of the malt beer market, and so on. This criticism may be dispensed with comprehensively as follows. Firstly, monopolistic conditions are difficult to observe in reality, since they are at best loosely defined in theory, and therefore resolve themselves mainly to observations about the conditions of concentration in industry output. Secondly, it will not be conceptually satisfactory for our purposes to observe industry concentration, and to infer monopolistic behaviour, since an earlier argument suggested that the two are not synonymous, nor even related in a causally significant way. For this reason, the notion of monopolistic behaviour was revised as the incentive and ability to behave in this way. Thus, instead of defining a *structural* link between industry concentration and monopolistic behaviour, a *behavioural* link has been defined between monopolistic behaviour and the monopolist's peculiar system of abilities and incentives. Clearly, so far as the mode of economic analysis is concerned, the latter characterisation of economic behaviour is more appropriate.

It will not be reasonable to infer monopolistic behaviour purely because we observe the incentive and ability to behave monopolistically. So our analysis appears to offer no obvious advantage over the usual inferences of monopoly from observations of industry concentration. However, it should be noted that the earlier definition of monopolistic conditions may be framed as a falsifiable one. That is, the customary mode of analysis in economics leads us to suggest, absent the ability and incentive to behave monopolistically, that monopolistic behaviour may not reasonably be inferred. This leads us to a very basic definition of monopolistic incentives and monopolistic abilities, such as the ability to exert a significant degree of independent influence over prices, or the incentive to restrict output by a substantial margin. The advantage of this presentation is that it allows us to dispense—mainly implicitly—with some of the alternative counter-claims of monopolistic behaviour, including barriers to entry, market contestability, and so on. This advantage flows directly from our definition of monopolistic conditions at a basic or fundamental level: barriers to entry, for example, are important only to the extent that they discourage prospective entrants; and to the extent that the reduction in observed competition will allow a producer greater freedom to raise prices, the irrelevance of barriers to entry may be seen to follow immediately from an inability to raise prices. The observed inability, say, to raise prices performs the function in our analysis of an “umbrella” condition: all monopolistic behaviour operates through this ability; and in the absence of such an ability, it may be presumed that monopolistic behaviour is similarly absent. Therefore, it seems reasonable to conclude that if the determinants of SAB's behaviour in the South African malt beer industry were ranked in terms of their significance, then monopolistic factors—such as unilateral pricing and output restriction—would constitute a minimum of SAB's observed market behaviour. This implies, in turn, that

the South African malt beer industry may not be characterised to any significant degree by monopolistic conditions.

This conclusion does not apply exclusively to South African Breweries, or exclusively to the South African malt beer industry. The selection of SAB as the object of our analysis, particularly since SAB is the most prominent, most important, and most temporally persistent example of economic concentration in the history of the South African economy, allows us to transfer some of our conclusions, in a number of interesting circumstances, to the balance of South African industry. For example, our analysis has suggested that the economic meaning of statements about the extent of economic concentration is distinctly unclear. Consider, for example, the observation that “[e]conomic concentration in the South African economy is high and increasing” (Fourie and Smit, 1989); or more importantly, the claim that “[economic power] lends itself to abuse and ... tends to be abused if long possessed” (Competition Board, in Fourie and Smit, 1989). In particular, the preceding analysis of the most prominent, important and temporally persistent example of economic concentration in South Africa—namely South African Breweries—does not appear to offer support that statements of this kind contain, on their own, any real underlying economic significance.

Thus, using a conventional and non-controversial definition of monopolistic behaviour—as the ability and incentive to behave in this way—the analysis has found in the strategically interesting case of absolute economic concentration, that monopolistic abuse and economic concentration are empirically independent phenomena. Although the conclusions should, at this early point in the analysis, be framed tentatively, it should be noted that empirical independence in a controlled environment—‘controlled’ in the sense that SAB was selected as the object of our investigation for various tactical reasons—suggests that statements about direct and straightforward relationships between the observed level of economic concentration and the imputed level of monopolistic behaviour are substantially mistaken. In fact, the following chapter confirms that SAB’s superior historical profitability is determined (or at least may be explained) by a small number of factors that dominate almost completely the direct impact of SAB’s dominant position in the malt beer industry. That is, empirical grounds will be offered for the suggestion made here that the degree of industry concentration is—in this tactically interesting case, and presumably, then, in a number of ancillary cases as well—very nearly irrelevant.

Before we proceed to the following chapter, it will be useful to recall the question, posed at the outset, whether an explanation for the superior profitability of the SAB group may be found in: SAB’s position as single supplier in the malt beer industry; SAB’s strategy of conglomerate diversification; and the group’s pyramid corporate structure. In particular, our aim throughout the dissertation is to relate these features of the SAB group in an economically important way to the profitability of this, South Africa’s premier industrial enterprise. The promising conclusion has already been framed that observations about

the level of economic concentration—and therefore imputations of trends in economic power drawn directly from observed levels of economic concentration—are perhaps less meaningful than is sometimes thought. In the following chapter, the historical significance of SAB's conglomerate diversification strategies are compared with the company's monopoly position in the beer industry, and with the group's pyramid mechanism of corporate control.

CHAPTER 2

AN ANALYSIS OF CONGLOMERATE DIVERSIFICATION WITH PARTICULAR REFERENCE TO SOUTH AFRICAN BREWERIES

1. INTRODUCTION

This dissertation has noted four essential features of the South African Breweries group. Firstly, SAB is widely regarded as South Africa's premier industrial enterprise (Barr, Gerson and Kantor, 1994). Secondly, SAB may be regarded for many practical purposes as the single supplier of malt beer in South Africa. Indeed, for several extended periods in the past, SAB has accounted for wholly 100 percent of the local malt beer market (Competition Board, 1982). Thirdly, SAB is located at the heart of the South African system of conglomerate diversification: the group is itself a diversified conglomerate, and at the same time forms part of a broader conglomerate. Finally, SAB is part of a broader set of pyramid-type arrangements, the predominant mechanism of corporate control in South Africa.

The question was considered, at the outset, whether an explanation for the SAB group's superior profitability may be found in any of these special features. In particular, this dissertation aims to establish whether SAB's position as single supplier in the malt beer industry; SAB's strategy of conglomerate diversification; and the group's pyramid corporate structure are related in any economically meaningful way to the superior profitability of SAB group. The previous chapter discounted the influence of SAB's monopoly position in the local malt beer industry, and offered various arguments against the conclusion that the explanation for SAB's historical financial performance may be found mainly in its "monopoly" or single supplier position. The evidence does not appear to offer support, for example, for the notion that SAB is a monopoly, except in a relatively remote sense—certainly not in our definition—of the term. Indeed, various arguments have been offered to suggest that certain important instances of monopolistic behaviour in the malt beer industry are attributable, not to South African Breweries, but rather to the South African government.

The present chapter investigates SAB's strategy of conglomerate diversification to establish whether the firm's history of superior financial performance may be explained by the system of horizontal expansion. In particular, the empirical analysis aims to decompose SAB's historical financial performance into the three different components—monopoly, conglomerate and pyramid—each of which are theoretically expected to have a distinct influence—positive or negative—on the firm's profitability. The chapter is structured as follows. Section 2 examines the essential features of the more important empirical literature dealing with conglomerate diversification strategies, highlights the various theoretical explanations for

conglomeration, and attempts to verify some of the predictions of the most prominent theory for South African Breweries. Sections 3 and 4 examine the basis for the present chapter's empirical methodology: Section 3 considers the different data; and Section 4 explains the appropriate empirical method. Section 5 investigate the consequences for SAB's financial performance of its single supplier position in the beer industry; the company's conglomerate diversification strategy; and the group's pyramid structure. The analysis aims, first, to quantify the financial advantages that flow from SAB's strategy of conglomerate diversification, and secondly, contrasts these with the advantages of SAB's single-supplier position in the beer industry. Section 6 extends the analysis to the SAB group's "pyramid" system of corporate control. Section 7 presents the chapter's principal conclusions.

2. A HISTORICAL REVIEW OF THE THEORETICAL AND EMPIRICAL LITERATURE ON CONGLOMERATE DIVERSIFICATION

2.1 THE AGGREGATE RISK REDUCTION OR "COINSURANCE" HYPOTHESIS

The earliest general theoretical development proposed as an explanation for conglomerate diversification makes the observation that conglomerates, as combinations of horizontally unrelated businesses, are simply combinations of statistically independent or negatively correlated income streams (Adelman, 1961). The presence of statistically independent returns streams suggests, in turn, that the total variance of returns is lower for a conglomerate than the simple sum of the variances of the individual pre-merger income streams. According to this so-called "coinsurance" theory, the incentive for conglomeration may essentially be framed as an enhanced ability to raise finance since, for any given level of profitability, reductions in the variability of income reduce the probability of bankruptcy (Lewellen, 1971). Reduced risk of financial failure, in turn, increases a lender's willingness to issue debt and an investor's willingness to subscribe for equity.

Although this view gained enormous currency in the academic literature, it may readily be shown to be false. Levy and Sarnat (1970) showed, for example, that gains of the coinsurance variety would be impossible in perfect capital markets. In such circumstances, lenders and investors are able to diversify their exposures to the same extent by taking positions in the individual firms in the same ratio as those taken by the conglomerate firm. Thus, the conglomerate would have no obvious reason to exist in the absence of capital market imperfections—such as positive information costs, portfolio indivisibilities, differential transaction costs, and the costs of actively managing an investment portfolio. Clearly, the probability of perfectly functioning capital markets will not usually be relevant, since for most practical purposes, most analyses are likely to accept willingly the possibility of imperfections in the capital market. But it is important to note, for our purposes, that in this risk-reduction view, conglomerate mergers serve merely to take advantage of the benefits which are presumed to exist in internal—rather than

external—capital markets. The conglomerate is an institutional form, in this view, that is designed to “internalise” or overcome the difficulties associated with external capital markets.

Two principal objections to this view may immediately be mounted. Firstly, it does not seem reasonable that the factors highlighted by the theory may, on their own, explain the full scale and scope of merger activity throughout the history of the modern conglomerate corporation. In particular, it does not seem plausible that the significant fluctuations in the ‘taste’ for conglomeration which are observed from time to time—such as the sudden surge in merger and acquisition activity reported in the United States in the 1960s (Business Week, 1968)—are explained to any significant extent by discrete changes in the magnitude of capital market imperfections. This criticism is supported by a number of empirical investigations. Most recently, for example, Comment and Jarrell (1995) have noted that debt does not appear to increase systematically with the degree of horizontal diversification (which excludes the coinsurance view more implicitly), and also that conglomerate firms do not appear to make less use of external capital market transactions (which excludes the coinsurance view more directly).

A second reason for the implausibility of the risk-reduction theory of conglomerate mergers, is that the theory restricts conglomerate activity to portfolio strategies of *reducing* the aggregate risk of a bundle of individual firms. But as may be seen, a conglomerate may have good reasons for selecting a portfolio of individual firm’s with *higher* stand-alone risks. That is, an analysis of conglomerate diversification strategies will not necessarily be restricted to the sort of diversification which typifies ordinary share portfolio investments. There is, in fact, a substantial body of empirical evidence which suggests that conglomerate firms are engaged in generally *more* risky projects than non-conglomerates (Hill, 1983). So far as SAB is concerned, the coinsurance theory of conglomerate diversification may be evaluated in a fairly simple way. Figure 1 contrasts the returns for a composite of the individual firms attached to SAB (the “pure” conglomerate portfolio) with the returns for SAB’s beer division (the conglomerate “core”). Returns to the pure conglomerate portfolio are calculated from historical returns of the various individual components, in proportion to the actual historical weights of these individual firms in the broader SAB conglomerate. Returns to the conglomerate core—in this case SAB’s beer division—are calculated as the residual between SAB’s total stock price returns, and returns to the pure conglomerate portfolio.

FIGURE 1. A SIMPLE TEST OF THE COINSURANCE OR RISK REDUCTION HYPOTHESIS.

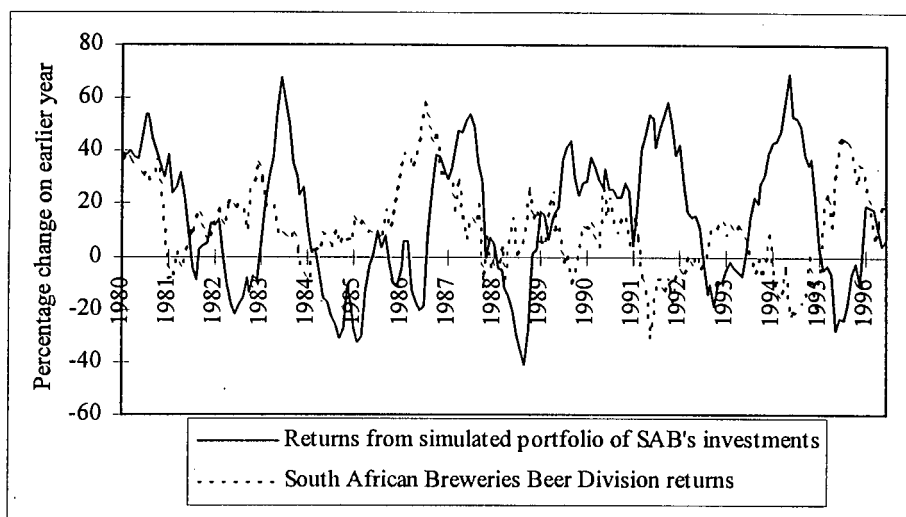


Figure 1 indicates that except for a brief period between 1986 and 1987, the returns from SAB's Beer Division have been consistently *less* variable than the returns from a simulated portfolio of SAB's individual conglomerate investments. That is, the pure conglomerate portfolio appears to be consistently *more* "risky" than the conglomerate core. This is clearly inconsistent with the total risk reduction hypothesis. In particular, the returns streams for the various components of SAB's conglomerate portfolio are considerably more variable the returns stream for SAB's Beer Division. Thus, a conglomerate portfolio—indeed *any* ordinary portfolio combination—of the different entities that constitute the broader SAB group would necessarily *increase* the variance of the combined entity's returns.

This observation is clearly inconsistent with the supposed total risk reduction rationale proposed for the system of horizontal diversification. That is, this observation suggests that a conglomerate is not "diversified" in the sense usually implied by financial theory—combining various returns streams to reduce the aggregate variability of returns. Rather, it appears that a conglomerate is diversified in the more limited economic sense of its involvement in a variety of horizontally unrelated industries.

2.2 DESCENT OF THE COINSURANCE VIEW

The coinsurance hypothesis described above has very little substantive theoretical or empirical content, and perhaps represents a case study in the bold principle that new and interesting developments in one area of economics (in this case, developments during the 1960s in general portfolio theory) are eagerly and enthusiastically transferred, occasionally with doubtful consequences, to other areas of the subject. Firstly, the literature on conglomerate diversification leaves the overwhelming impression that the risk reduction hypothesis is an *ad hoc* application to the conglomerate phenomenon of developments made in the 1960s

and 1970s in the general field of portfolio finance. Secondly, the empirical evidence for the theory seriously contradicts the theory's predictions. For example, predictions implied by the theory—framed primarily in the language of risk reduction, but also ancillary propositions—are soundly refuted by the empirical evidence (Mueller, 1973; Higgins and Schall, 1975). And although the obvious empirical discrepancies found in the literature make the theory eminently falsifiable, the theory's respectability continued for some time—throughout the 1960s and 1970s—and it still appears on occasion (Amihud and Lev, 1981; Majd and Myers, 1987).

Surprisingly, the demise in academic centres of the coinsurance view of conglomerate diversification came from an unexpected quarter. Theoretical developments in the 1960s and 1970s—which were primarily associated with the coinsurance motive for conglomerate diversification discussed above—generally address themselves to the benefits of conglomerate diversification. However, more recent arguments are disposed to address the aggregate costs of this corporate strategy. That is, academic arguments were distinctly in favour of conglomerates in the 1960s and 1970s, but became distinctly less favourable during the 1980s. The marked difference in emphasis between these two periods coincides neatly with changes in the general attitude toward conglomeration that emerged in the business community. In the 1950s and 1960s, for example, there was a large wave of highly visible mergers, primarily conglomerate activity involving large and prominent organisations (Business Week, 1968). But since the early 1980s, and similarly in the 1990s, this trend has largely been reversed (Berger and Ofek, 1995). Accordingly, the potential benefits of horizontal diversification (which include: managerial economies of scale and scope; greater operating efficiency; economies of scope in production and marketing; improved debt capacity; lower tax charges; and the efficiency of an internal capital market) have been superseded in the literature by the potential costs (including: cross-subsidisation of losses; increased internal dispersion of information; and the phenomenon of value-decreasing investments). Thus, the coinsurance view of conglomerate mergers did not reach its descendancy, as might be expected, on account of the vast empirical evidence that suggested the view was false. The preceding analysis has shown, for example, that the theory persisted for a longer period than might ordinarily be expected. Rather, it appears that the academic arguments—first in favour of mergers, and subsequently opposed to them—were simply swept along with the prevailing activities of the corporations themselves (Jarrell, Brickley, and Netter, 1988).

It would be substantially incorrect to claim that this 'vacillation' in economic commentaries of the time represent a flaw in the academic literature. Having committed themselves to explaining conglomerate firms, economic commentators have simultaneously committed themselves to explaining both the ascent and subsequent demise of much of the conglomerate merger activity previously observed in practice. The temptation proved too great, it seems, to explain the observed ascendancy of these firms with theories that supported the phenomenon, and to explain the subsequent unpopularity of this organisational form with

academics' claims of their undesirability. This is perhaps more in the nature of academe than in the nature of conglomerates. For our purposes, it will be sufficient only to note that a particular theoretical view of conglomerate mergers has not yet been firmly established. In particular, the aggregate effect of distinct historical changes in the literature's attitude toward conglomerates is an obscure prediction about the overall effects of conglomerate diversification (see for example Berger and Ofek, 1995). The theoretical significance of the immediate work should not be overstated, of course—since we aim exclusively to dissect and systematise the loosely bound empirical stylisations of conglomerate diversification strategies—the above observation alone justifies our investigation of horizontal diversification, since it appears that no consistent theory of conglomeration exists.

2.3 CONGLOMERATES AND THE MARKET FOR CORPORATE CONTROL

At this point, it may be proposed that following the coinsurance view, no individually accepted theory of conglomerate diversification has emerged in the academic literature. It may be objected at this point that the significant increase in merger and acquisition activity during the 1980s was associated with a new theory of conglomerate diversification, apparently based in the market for corporate control which became prominent as a separate phenomenon during that period. This objection may, in turn, be based on various observations drawn from the literature of the time. Firstly, diversified or conglomerate firms were more likely during the 1980s to be takeover targets, and conglomerates appeared to participate more actively in the market for corporate control over that period (Comment and Jarrell, 1995). Secondly, some authors integrated the conglomerate firm into more general theories of internal and external mechanisms of corporate control (Jensen, 1995; Barr, Gerson and Kantor, 1994).

But on closer inspection, it is apparent that much of this literature aims less to describe conglomerates, as it does to explain the U.S. corporate control system, which in the 1980s took the form mainly of conglomerate mergers. A later section draws an important distinction between the corporate strategy of conglomerate diversification and the various corporate control mechanisms which have been associated in recent years with conglomerates. This distinction proves to be important in the following chapter, since corporate control mechanisms appear in various alternative forms, and are not exclusively associated with the conglomerate form of business enterprise. Thus, despite its concern with the corporate control implications of merger activity, the corporate control literature, particularly in North America, is not a distinct theory of the conglomerate itself.

3. THE APPROPRIATE EMPIRICAL METHODOLOGY: DATA CONSIDERATIONS

The more important literature on conglomerate diversification is drawn from a vast system of commentaries, of varying degrees of significance for our purposes. These commentaries extend in South Africa alone from the early 1900's through to the present day. At times, for example, the conglomerates appear to have played a special part in the history of South Africa's corporate and economic development (Horwitz, 1967). At other times, the conglomerates have been viewed as unfashionable by the South African investment community (Kantor, 1995). The conglomerates have also, on occasion, encountered the hostility and resistance of the broader political community (Andrew, 1994). Thus, as noted earlier, the contribution in the present chapter to the vast system of empirical and theoretical literature on conglomerate diversification may be justified precisely on the grounds that the entire body of commentaries has failed to establish firmly—or invalidate finally—the desirability of conglomerate diversification strategies. Clearly, if the empirical investigation presented in this chapter is to make a meaningful contribution to the literature, then the pitfalls evident from the existing body of literature should be overcome. For our purposes, the more important pitfalls may be noted and addressed.

Firstly, the empirical approach adopted in this chapter must be as simple as possible. That is, elaborate and complicated theoretical depictions—particularly of something that may be reduced in a later section to a relatively simple empirical problem—must be avoided (Holmström, 1979). Secondly, the investigation must make the absolute minimum data aggregations (Benston, 1985). There is strong evidence to suggest, for example, that the contradictory findings in the empirical literature arise precisely because the research object is devised—and conclusions are sought—at the level of the individual firm, while the research method is devised to draw conclusions from data for industry-wide or even economy-wide aggregations of individual firms (for example, Goldberg, 1973; Melicher and Rush, 1974; Rhoades, 1975). Thus, it is a primary advantage of this dissertation that our analysis addresses itself to the problem of explaining a particular firm's profitability, as opposed, say, to an industry-wide or economy-wide analysis (Baker, 1992).

Thirdly, the analysis must make the minimum use of accounting data, since concepts drawn from accounting practice bear an obscure relationship in practice to their closest economic equivalents (Kay, 1976; Fisher and McGowan, 1983; and Stark, 1979). In the first instance, some important economic concepts—such as marginal or opportunity cost—just do not have empirical equivalents, or at least straightforward ones. In the second instance, accountants take account of the temporal dimension of cash flows and returns streams—important for such concepts as risk, present value, internal rates of return, profitability, and so on—in an extremely simple way. In the second instance, the data of interest to market and industry researchers, including summary profit statistics, will normally be simple summations of surveyed firm-level accounting data. Thus, the problems with firm-level accounting data are transferred

through aggregation—perhaps even amplified (Fisher and McGowan, 1983)—to a significant part of the industry data available to researchers in this area. Since research in this area is particularly concerned with the connection between economic magnitudes (such as industrial performance) and accounting relationships (such as industrial profitability), such inadequacies as exist in accounting data will obscure the empirical analysis in a variety of undesirable ways.

For these reasons, the concepts used in accounting practice make it difficult, in practice, to establish the significance of economic conclusions derived from accounting data. It is not a surprising result, for example, that five different empirical studies—each of which used Tobin's q ratio as a measure of corporate financial performance—established different relationships between profitability and corporate diversification strategies (Salinger, 1984; Montgomery and Wernerfelt, 1988; Wernerfelt and Montgomery, 1988; Lang, Stulz and Walking, 1989; Lang and Stulz, 1994). Indeed, it would not be unreasonable to expect, based on the preceding discussion, that each study would highlight a different empirical regularity, and therefore draw a different conclusions about economic behaviour, from essentially similar accounting data.

Clearly, robust statistical results are essential for meaningful empirical analysis. Thus, the usual conceptions of empirical studies in this area—including studies of industry data drawn from firm-level accounting information—will be inadequate for our purposes. The following analysis considers stock market returns since this approach offers several important advantages.

Firstly, stock price data are useful for capturing market expectations about a particular variable. For example, economic behaviour—which on account of the irrelevance of past decisions will always be forward-looking—is naturally and more precisely phrased in terms of expectations about the future value of some variable. And since stock price data represent expectations about future performance, at least to a greater extent than historical accounting data, stock prices will often be the only practicable alternative when producing an approximate empirical measure of expected profitability.

Secondly, stock price data overcome some of the difficulties with accounting data. Data drawn from stock prices are available regularly; stock prices have a standard format; they have a single interpretation for all firms, also across time; and if stock price data are not precisely accurate, then the data are at least consistently inaccurate. Thus, meaningful and reliable conclusions are more readily available from returns calculated using stock prices than from accounting data.

Thirdly, stock market data are flexible enough for studying historic financial performance at various degrees of aggregation. In particular, stock price data are available for all individual listed firms (such as South African Breweries), composite indices are available for individual sectors and industries (such as the Beverages, Hotels and Leisure sector) and also for the overall market (for example, the All Industrials

index). And on account of their common features, discussed above, stock price data may be combined in a large number of seamless ways. Thus, unlike accounting data, stock prices are useful because they are calculated at the level of the individual firm, not from industry- or economy-wide sampling procedures; and they may readily be fashioned into composites with varying degrees of aggregation, as the analysis requires.

Thus, stock price data appear to overcome some of the more important problems discussed above. This suggests that empirical analysis based on stock price data will have a desirable degree of empirical significance, and will not depend on incorrect conceptual specifications and empirical counterparts of the economic concepts of interest. And since stock prices are often the only conceptually appropriate measure of financial performance, it seems appropriate to frame our methodology, wherever possible, in terms of stock market performance. The following section will show that there are also sound economic reasons, apart from those related to stock price data, for basing our empirical approach on the stock market.

4. THE APPROPRIATE EMPIRICAL METHODOLOGY: CONGLOMERATE DIVERSIFICATION AS PORTFOLIO MANAGEMENT

Conglomerate diversification is a business strategy designed to support a firm's operations in a variety of horizontally unrelated industries. Therefore, important parallels may be detected between the horizontal diversification decisions of conglomerates and the ordinary portfolio investment strategies of individual investors. This "portfolio management" approach has a long history, and dates back to the original empirical studies of conglomerate diversification—notably Hall and Weiss, 1967; Smith and Shreiner, 1969; Levy and Sarnat, 1970; Weston and Mansinghka, 1971; Weston, Smith and Shrieves, 1972; Melicher and Rush, 1973; and Mason and Goudzwaard, 1976. These authors generally take the approach of evaluating conglomerate performance within the framework of portfolio management that was developing at the time. The portfolio approach was drawn, as has been shown, from contemporary developments in general portfolio theory, and suggested that the conglomerate was a natural subject for general portfolio analysis. Note that our earlier criticisms of the general portfolio approach to the performance of conglomerate firms were based on the prevailing assumptions that conglomerates invest *for the same reasons* as the ordinary stock market investor, including portfolio coinsurance. For reasons explained above, this argument will not be made here. Instead, it may be argued only that the conglomerate may be seen to invest *in essentially the same way* as the ordinary portfolio investor. The economic rationale behind this approach may be framed as follows.

Investment decisions involve a choice among the various asset classes, ranging from purely material assets (such as land, buildings, and plant and machinery) to purely financial assets (such as cash, equity, and bonds). But within the universe of possible (physical and financial) investment decisions, subsets of

investors may be identified, including “portfolio” investors who typically consider investments only in financial assets, and “real” investors who typically consider investments only in physical assets. Clearly, the division will not always be so neat, but for our purposes the distinction will be useful. The ordinary investor’s portfolio decisions may be framed, for example, as an optimisation problem among financial assets, namely cash, equity, and bonds. The conglomerate’s investment decisions, by contrast, involve a choice among various industries and sectors. These observations follow immediately from the definitions of “portfolio”, namely a bundle of financial assets drawn exclusively from the money and capital markets, and “conglomerate”, namely a bundle of firms drawn exclusively from horizontally unrelated industries.

The appropriate proportions of assets in a portfolio will be determined by the risk profile of the portfolio investor, together with the expected risk-return profiles of the different financial assets (Lintner, 1971). For a conglomerate, these profiles will determine, by contrast, the desired mix of industry or sectoral exposures in the conglomerate portfolio. Thus, conglomerates may be seen as a subset of the full set or universe of portfolio investors. In particular, ordinary portfolio investments may be drawn from the universe of assets, whereas conglomerate investments are drawn exclusively from different industries or sectors (Caves, 1980). Thus, given the relative logical positions of the concepts “portfolio” and “conglomerate”, it will be appropriate on many occasions to evaluate conglomerate performance on the same basis that portfolio performance would normally be evaluated for any investor.

This is not to say that conglomerates are indistinguishable from ordinary portfolio investors. Firstly, conglomerates are primarily concerned with *sectoral* investments, since horizontal diversification strategies are devised solely on the basis of the conglomerate’s desired levels of participation in various horizontally unrelated sectors or industries. Thus, conglomerates may readily be separated from firms that do not base their portfolio strategies solely on the identity of sectors or industries, for example money market funds and narrow investment trusts. Secondly, conglomerates are concerned exclusively with *equity* investments, that is, claims to participate directly in profits as opposed, say, to rentals or interest. Thus, regardless of whether a conglomerate takes up a stock market investment in listed corporations, or private investments in unlisted corporations, or even whether the conglomerate maintains its structure as a system of integrated divisions, the conglomerate will nonetheless always maintain an equity stake in the profits of an economically distinct business unit. This definition of a conglomerate excludes the possibility that other firms—for example banks, which lend money to credit-worthy investors in any and all industries—will be classified as conglomerates.

Thus, given only these limitations—that the basis for a conglomerate’s portfolio selection is restricted to a *sectoral* investment strategy; and also that this strategy is further limited to *equity* investments—a conglomerate’s portfolio performance may be evaluated on the same basis as historical performance would be evaluated for any portfolio investor. In an *ex post* sense, portfolio investors and conglomerates are

involved in essentially similar, underlying investment strategies. In particular, the ordinary stock market investor's portfolio decision typically involves calculated speculation about three variables—the universe of international stock markets in which investments may be made; the various sectors or industries within each stock market; and the individual firms within each sector.¹ In terms of the above conception of the term, a conglomerate faces precisely the same decisions.

A comparative basis has therefore been established on which to evaluate the historical performance of conglomerate diversification strategies. The portfolio investment decisions for any conglomerate—like those for any domestic equity investor—may be reduced to the following four distinct steps (Livingstone, 1977), which may be explained with the aid of the following simple specification.

$$Y_t = \alpha_0 + \alpha_1 X_{1t} + \alpha_2 X_{2t} + \epsilon_t$$

where Y_t represents portfolio returns in period t ; X_{1t} is a vector of all possible sectoral investments; X_{2t} is a vector of all possible firm-level investments within each sector; α_1 and α_2 are vectors of portfolio weights; and ϵ_t is a classical error term. Using this specification, it seems reasonable to reduce the investor's portfolio decisions to essentially four components. First, the investor must identify the sectors in which to invest (x_1, X_{1t}), based on his informed expectation about the future performance of the different sectors. (In the following analysis, this component of the overall portfolio decision will be termed the "sectoral identification" decision, on account of the investor's responsibility to identify—and subsequently to select—a particular sector from those available.) Secondly, he must determine his desired level of exposure to the various sectors (α_1), that is, the proportions of available wealth that he will devote to each sector. (This may be termed the "sectoral allocation" decision.) Thirdly, from the identified sectors, the investor must determine the firms in which to invest (x_2, X_{2t}), based on his expectations about the relative performance of the different firms within each sector. (This may be termed the "firm identification" decision.) Finally, from the identified firms, the investor must determine the desired level of exposure to the different earmarked firms in the various selected sectors (α_2), that is, the proportions of available wealth that he will devote to each identified firm. (This may be termed the "firm allocation" decision.) Thus, a distinction may be drawn between industry-level and firm-level decisions, and further between identification and allocation decisions.

¹ In the following analysis we will be concerned exclusively with domestic equity portfolios. That is, the first variable in an equity investor's portfolio decision — the universe of international equity markets — will be ignored in the following analysis. Without limiting the general applicability of our conclusions, this allows us to avoid multinational corporations, which serve merely to complicate the present analysis.

The distinction drawn above between the different investment decisions may at first appear to be insignificant. The following sections will show how this specification defines our empirical methodology. But for the moment we should note only that, by differentiating between the different portfolio decisions, we are simultaneously able to differentiate in an empirically quantifiable way the returns that accrue to a particular firm purely on account of its conglomerate, monopolistic, and pyramid corporate strategies. For example, conglomerate strategies of horizontal diversification are fully specified by the sector and firm identification decisions. That is, horizontal diversification strategies constitute portfolio diversification in much the same way that an individual's equity portfolio strategy will normally be one of investment diversification—identifying (that is, locating or isolating) the particular firms and sectors which are expected to yield superior returns in the future. Thus, for a conglomerate, the portfolio investment decision reduces to identifying the sector or industry in which an investment will be made (the sectoral identification decision) and identifying the firms within each sector or industry in which to invest (the firm identification decision).

The remaining decisions—the proportion of wealth devoted to the various sectors (the sectoral allocation decision) and the portfolio's relative exposures to the various firms within each sector (the firm allocation decision)—correspond more closely with the decisions that face monopolies and pyramids than conglomerates. A pyramid, for example, like any other corporate control mechanism, faces a firm-level portfolio allocation decision. That is, a decision to exercise control over the affairs, operations, and objectives of a firm is simultaneously a decision to hold a particular fraction of the firm's outstanding equity shares (usually an effective majority) rather than any other fraction (especially a minority). So portfolio allocation and pyramid control strategies may both be devised as a decision to commit a particular fraction of available wealth—rather than any other fraction of wealth to a given firm. The discontinuity in returns theoretically expected from the benefits of corporate control—framed as a decision to hold a majority of a particular firm's issued equity, rather than a minority stake—introduces the issue of strategic portfolio *concentration* into the pyramid's decision making framework, which is obviously distinct from the issue of portfolio *diversification*. Thus, the distinctions proposed above allow us to differentiate—for the moment conceptually, but later also empirically—between conglomerate returns and pyramid returns, even if the two different returns components exist within the same firm.

In contrast to conglomerate and pyramid strategies, a monopolist faces a sector or industry level portfolio allocation decision. That is, a monopolist's strategy may be devised as a decision to commit a particular fraction of aggregate wealth—rather than any other fraction of wealth—to a given industry. That is, the benefits that accrue to the monopolist purely on account of his decision to invest in a strategic proportion of an industry's available equity—in particular, the pure monopolist will usually acquire the industry's entire available equity—introduces the issue of strategic portfolio concentration into the monopolist's

investment decision making framework, specifically at the industry level. This, too, is distinct from the conglomerate's decision to diversify his investments across the various industries, and the pyramid's decision to concentrate his investments in particular firms.

5. AN EMPIRICAL DECOMPOSITION OF SOUTH AFRICAN BREWERIES' HISTORICAL FINANCIAL PERFORMANCE

As noted above, a distinction between firm-level and industry-level investment decisions, and between allocation and identification investment decisions, may appear to be insignificant. But as will be explained in greater detail below, this characterisation of equity portfolio investment decisions is useful because it separates the decisions related exclusively to conglomerate diversification strategies (namely, sector and firm identification decisions) from the decisions related exclusively to pyramids and other corporate control mechanisms (namely, the firm allocation decision) and also from decisions related exclusively to monopolistic behaviour (the sectoral allocation decision). Given this characterisation, it is a relatively simple empirical matter to isolate the different elements, as defined, of a particular firm's financial performance.

The following sections use a simple empirical technique to decompose SAB's stock market returns into the four different components identified above. This approach has the advantage of leading the analysis directly to a quantitative estimate of the contributions of conglomerate, monopolistic and corporate control strategies to the historical financial performance of the SAB group. For an economic precedent to this broad approach, see Schmalensee's (1985) conceptually similar application, in a different area, of the distinction between "firm", "market", and "industry" effects on corporate profitability.

5.1 THE SECTORAL IDENTIFICATION DECISION

The economic meaning of sectoral (as opposed to firm) decisions has already been suggested, and also identification (as opposed to allocation) decisions. The class of portfolio investment strategies given exclusively by sectoral identification decisions may be explained more precisely as follows. For various reasons, the performance of different firms within the same industry will correspond more closely, on average, than the performance of firms within different industries (Nightingale, 1978). Macroeconomic factors, for example, are expected to affect most sectors in the economy; but firms within a particular sector will be affected by these macroeconomic factors in much the same way, purely on account of the asymmetric impact across sectors of any given macroeconomic factor. Thus, although the real interest rate environment—a macroeconomic factor—is expected to affect all firms in the economy, all banks—as participants with other deposit-taking institutions in the financial services industry—are expected to be affected in similar ways *ceteris paribus* by changes in the interest rate environment.

In brief, then, a common “industry effect” might be expected to operate on the profitability and performance of various firms within a particular industry or, equivalently, within a particular stock market sector. And to the extent that this “industry effect” is expected to be significant, an important decision for any equity investor is the appropriate sector in which to invest his wealth. This decision was referred to earlier as the sectoral identification decision. For a conglomerate, the identical decision is involved in selecting the industry in which to invest—except that the investment will usually occur on a significantly larger scale.

The present section evaluates the impact of industry effects on SAB’s profitability by isolating the sectoral identification decision from historical data. As a first step, two indices may be constructed. The first index is simply the overall stock market index, and measures the aggregate performance of the various stock market sectors weighted statistically by the market capitalisation of each sector.² In a sense, this index may be regarded as a ‘control’ index, since it tracks the performance of a completely neutral sectoral investment strategy.

Investments made in accordance with the overall market index are ‘neutral’ in two important respects. Firstly, the passive investment strategy blindly includes all the sectors that comprise the overall market index. Thus, the sectoral identification decision may be framed as the decision to invest in a subset of the overall market index, excluding those sectors which are expected to perform relatively poorly, and including only those sectors which are expected to perform relatively well. Secondly, the neutral investment strategy will use the market capitalisation weightings of the various sectors. Thus, the sectoral allocation decision may be devised as the decision to deviate from the market capitalisation weights implicit in the calculation of the overall market index, increasing the portfolio’s exposure to the better-performing sectors selected by the sectoral identification decision, and reducing the exposure to the poorer-performing sectors. In sum, the overall stock market index is neutral in two distinct senses, and allows for a “purely” passive investment strategy by excluding both the sectoral identification and sectoral allocation decisions.

The second index is calculated in the same way as the overall index, but includes only those sectors in which SAB has listed portfolio investments. That is, while the first index is simply the market index, this index takes as its starting point the overall market index; goes on to exclude all sectors in which SAB does not have listed equity investments; and leaves the market capitalisation weights—not SAB’s actual

² The overall market index is not actually calculated using market capitalisation weights. It is calculated, instead, by a complex variant of statistical cluster analysis. However, for our purposes, it will not be incorrect to view the market index as weighted by market capitalisation, since the market index we will consider below is calculated from a sample of the top 80 shares on the Johannesburg Stock Exchange, which are themselves identified and ranked by market capitalisation.

historical weights—to define the relative proportions invested in the various sectors. Thus, the sectoral investment strategy implied by the second index is no longer purely passive, since some sectors which are included in the market portfolio (our control index) will not appear in our simulation of SAB's portfolio. Note that the sectoral investment strategy remains a passive one in terms of the weightings assigned to the various assets. Thus, our second index makes allowance *only* for the fact that SAB has made a judgment to exclude certain sectors from its portfolio.

To see how this is possible, consider that so far as the sector weights are concerned, the use of market capitalisation weights is maintained when calculating the 'control' index. Market capitalisation weights reflect, at least in part, the market's expectations about the relative prospects of the various sectors. Thus, any deviation from this passive system of weightings will imply a set of expectations which differ from the aggregate market expectation and, therefore, a non-neutral sectoral allocation strategy. But for the moment, the analysis is concerned exclusively with the impact on SAB's returns of a non-neutral sectoral *identification* decision. Thus, a non-neutral sectoral *allocation* decision may be 'controlled' by adopting the same weighting system employed by the overall market index. In effect, the analysis aims to avoid introducing an asymmetry between the market's expectations of future relative performance (given by market capitalisation weights) and SAB's expectations (as revealed by the historic weights in SAB's portfolio of listed investments), for this would imply a non-neutral sectoral allocation strategy.

The effect of contrasting these two indices will be to isolate, in an empirically quantifiable way, the impact on SAB's profitability of the group's historical sectoral identification decisions. Since returns from the 'control' portfolio or index represent the returns available from a passive investment strategy, and since returns from the 'alternative' portfolio represent the returns available from an active investment identification strategy, the difference between the two series of historical returns may be seen as a historical measure of the excess returns which flow purely from a decision to deviate from the investment strategy given by the overall market index. These excess returns may, in turn, be framed as SAB's historical skill in identifying those sectors which are profitable exclusively on account of their positive industry effect. More precisely, this difference represents the aggregate benefits which flow from forsaking the neutral sectoral investment strategy implied by the overall index—by simultaneously eliminating selected sectors from the market portfolio, and maintaining the market's stance about the market's implicit sectoral weights.

The approach outlined above may appear to be unnecessarily elaborate. Certainly, this particular empirical approach is intricate, as may be seen from our definitions of the 'control' and 'alternative' indexes. But the intricate nature of the approach belies an important advantage for our analysis. Note, for example, that the dissertation is concerned exclusively with a particular firm, as opposed, say, to an industry-wide or economy-wide analysis. This approach has been justified, for example, purely on the grounds that it is an

undesirable feature of many studies in this area that they are concerned with industry-wide aggregations of what are essentially firm-specific phenomena. But the firm-specific nature of this study appears to present special empirical problems, particularly if conclusions drawn from South African Breweries—as the subject of our analysis—are to be used when offering more general conclusions about the broader phenomena of monopolistic behaviour, conglomerate diversification, and corporate control.

However, an interesting feature of the empirical method outlined above is that it does not rely on direct comparisons with other firms. In particular, it will not be necessary to contrast the patterns which emerge from the two indices described above with patterns from other firms. This is so for two reasons. Firstly, by the peculiar definition of our indices, we have been able to isolate the particular advantages that flow to conglomerate firms. Comparisons with non-conglomerate firms will therefore be meaningless. Since the empirical method described above was devised precisely to avoid this necessity, many of the problems implicit in comparative techniques, and therefore many of the criticisms that may be raised against such an approach, have effectively been overcome. Secondly, by the strategic choice of SAB as the research object, the analysis has largely ensured that the results will be broadly applicable to conglomerates in general. The general substance of this approach may be seen by considering the previous chapter, which selected SAB from the single most concentrated industry in South Africa. This selection proved extremely useful for our analysis, since it drove home the point that—even for the country’s most concentrated industry—industrial concentration and monopolistic behaviour are causally independent phenomena. The selection of SAB as one of South Africa’s biggest and most profitable conglomerates serves a similar function.

Figure 2 presents percent changes in the above indices, and the arithmetic difference between them.

FIGURE 2. ‘INDUSTRY’ EFFECTS FOR SOUTH AFRICAN BREWERIES, 1980 - 1996.

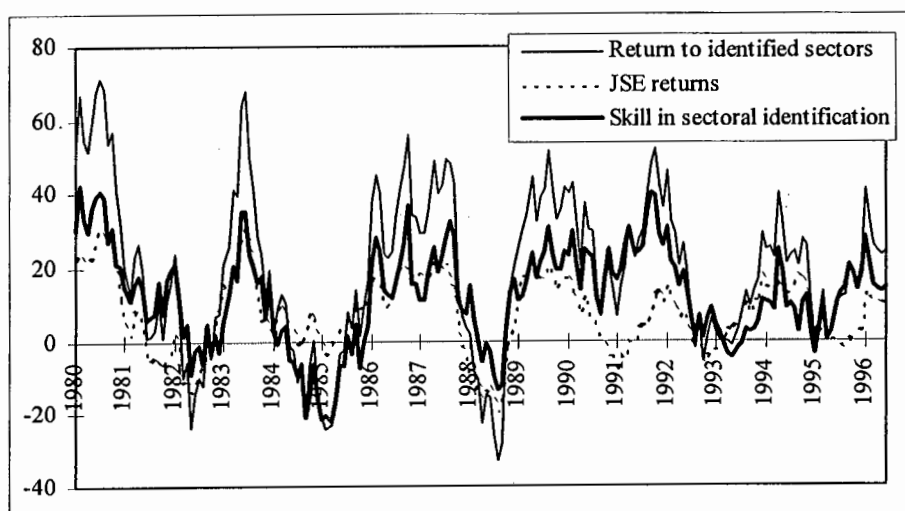


Figure 2 indicates that the returns to SAB's identified or "ear-marked" sectors—that is, the sectors in which SAB has historically made various strategic investments—consistently exceed the overall market or 'control' index returns. For example, Figure 2 shows that the difference between the returns available from the 'control' and 'alternative' indices is consistently—almost universally—positive. In particular, it may be concluded from Figure 2 that SAB's 'sectoral identification' skills have had a distinct positive impact on SAB's historical financial performance. As will be seen below, when the advantages that flow from SAB's sectoral identification skills are quantified, pure sectoral identification decisions alone have historically contributed roughly 45%—very nearly half—of the SAB group's total stock market performance between 1980 and 1996. This appears to suggest that SAB has a distinct aptitude for identifying 'strategic' sectoral investments—sectors which are consistently profitable relative to the universe of possible sectors. For the moment, it will be sufficient to note only that this ability is critical to a strategy of conglomerate diversification. Since conglomerates are business enterprises with selected investments in a variety of horizontally unrelated industries, the ability to make historically significant—and more importantly, consistently profitable—selections from the total set of all industries would imply that conglomerate diversification has, in its own right, a distinctly positive impact on financial performance.

5.2 THE SECTORAL ALLOCATION DECISION

Related to the sectoral identification decision discussed above, is a decision about the relative portfolio allocation among sectors. A distinction may be drawn between these two decisions. The sectoral identification decision, for example, determines which sectors are potential candidates for investment, while the sectoral allocation decision determines the proportion of wealth which will be committed to any given sector. This distinction would not ordinarily be important, since it would appear that the sectoral identification and sectoral allocation decisions are implied by each other. For example, a decision to commit a particular proportion of wealth to a particular sector is simultaneously a decision to invest in that sector.

However, the distinction between sectoral identification and sectoral allocation decisions is more than technically significant when the analysis is concerned with investors who have considerable wealth available for investment, such as SAB. In such a case, the sectoral allocation decision may effectively be framed as a choice between acquiring a nominal stake in an identified or 'candidate' sector, and acquiring a significant equity stake in that sector. And the decision to dominate the available (public and private) equity in a particular industry or market will, of course, correspond in the extreme case with the usual conception of a "monopolistic" or single supplier situation. And so far as a dominant firm is normally

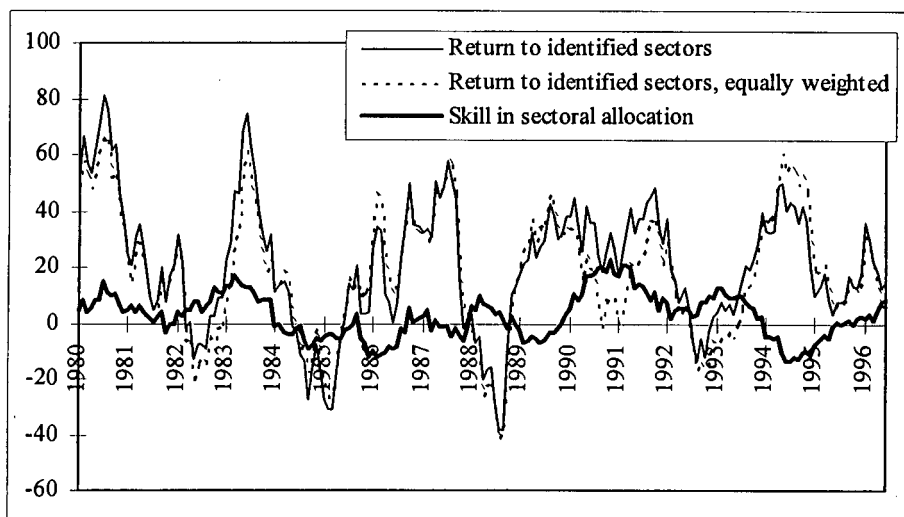
characterised by its dominance of industry supply, it may readily be seen that this kind of dominance implies also a dominance of total industry equity. Thus, for South African Breweries—by far the dominant firm in its industry—the distinction between sectoral identification and sectoral allocation decisions becomes extremely important.

The present section examines the impact on SAB's financial performance of variations in its equity concentrations in the various sectors by isolating the sectoral allocation decision from historical data. Once again, the previous approach is maintained. The approach constructs two indices, a 'control' index and the alternative index or 'experiment'. Both indices are performance composites of the sectors in which SAB has listed portfolio investments. However, the first index—the 'alternative' index—assigns actual historical weights to the various sectors in SAB's portfolio; in constructing this index, SAB's actual historical exposures to the various industries in its portfolio are calculated and used. The second index—the 'control' index—assigns equal weights to the different sectoral indices; this index 'controls' for the impact of asymmetric expectations about the relative future performance of the various sectors. But note that in both cases, data are only considered for those sectors in which SAB has made portfolio investments. That is, the approach aims to isolate the historical difference between equally-weighted and differently-weighted portfolio investments.³ Thus, essentially the same method is followed in the present section as was adopted in the previous section, except that the sectoral allocation decision is isolated here, not the sectoral identification decision. The difference between the returns from the two indices devised above represents the benefits of maintaining a particular sectoral allocation, relative to the alternative equal (neutral) allocation.

The advantages that flow from non-neutral investment allocation strategies are presented in Figure 3.

³ Note that we use equal weights, and not market capitalisation weights, when calculating the control index. This approach introduces a "true" neutrality in the control index, since as we have seen above, market capitalisation weights will, at least in part, contain the market's expectations about relative future performance.

FIGURE 3. RETURNS TO VARIATIONS IN SECTORAL ALLOCATION
FOR SOUTH AFRICAN BREWERIES, 1980 - 1996.



An interesting feature of Figure 3 is the close correspondence between returns realised from the actual historical index (using actual sectoral weights) and the control index (equal sectoral weights). As may be seen, the two indexes track one another fairly closely. The close correspondence between these indices suggests that SAB's financial performance is determined largely independently of the investment weighting in each sector, since Figure 3 suggests that variations in the sectoral allocation do not contribute in a meaningful way to the firm's overall returns. In fact, a later section estimates that around 11% of SAB's historical financial performance may be explained directly by the sectoral allocation decision described above.

This does not appear to be an intuitively appealing conclusion. How is it possible, for example, that a firm's investment in a group of individual sectors is important, and simultaneously that the firm's individual equity commitments to these firms is substantially irrelevant? The point to be made here is that the different assets that constitute SAB's portfolio are essentially "substitutable", since the relative weightings attached to the individual components of the portfolio do not appear to make a significant overall contribution to total historical returns. That is, the individual assets within SAB's portfolio appear to have similar returns profiles over time, accounting for the insignificant contribution to returns that may be expected from simple variations in the portfolio weights of the different firms. Indeed, it may be known that this is the case *a priori*, given the overall preponderance of the aggregate market effect on different equity return streams.

The result derived above is actually intuitively appealing, since SAB should be expected to impose a selection process on the individual candidates for investment, or at least expect the market to make such a selection in the aggregate, particularly with the effect that the returns streams yielded by the individual

assets are bound to the market returns cycle, substantially similar, or at least similarly positive. That is, while SAB is not an entity on its, but rather composed of a mass of contracts between individuals, it will in the aggregate behave as an individual, with a single schedule of preferences for investments, based on the competition of the various factors of production within the firm. In terms of this single preference schedule, SAB will be expected to pursue consistently a certain class or range of investments, with similar risk and return profiles, and so on. In the process, the weighting attached to any particular investment will make little difference for aggregate returns. On account of SAB's selection criteria for investments, similar, or similarly positive, investment returns will be sought, and these will be combined in almost arbitrary proportions to form a single profile of portfolio returns, based on essentially similar individual investments.

This conclusion may immediately be seen to be a significant one, whatever the particular reasons for the historical irrelevance of SAB's portfolio weighting strategy. The latter point, at least, is a purely empirical matter, but outside the scope of our immediate interest. As noted above, the sectoral allocation decision may effectively be framed as a choice between acquiring a nominal stake in a candidate sector, and acquiring a significant equity stake in that sector. Thus, the benefits which accrue to SAB as a direct result of its decision to invest a significant fraction in any particular industry—as opposed to the 'control index' decision of equal fractions in each industry—appear to be relatively small. Indeed, the historical financial benefits which accrue to SAB purely from following a particular conglomerate diversification strategy appear to dominate almost completely the advantages which flow from pursuing investments purely on the basis of strategic equity concentrations in the various industries.

The following conclusions may be drawn from this result. Firstly, it appears that the ability to identify strategic industries—quite independently of the proportions of aggregate wealth devoted to that industry—is by far the more significant factor in determining total historical financial returns. Secondly, this result appears to confirm our conclusion in an earlier chapter that SAB's position as sole supplier in the South African malt beer industry does not, on its own, impact in a substantially positive way on the firm's profitability. In particular, the analysis has suggested that SAB's decision to commit a particular proportion of wealth to, say, the malt beer industry—even capturing the whole equity of the industry—is dominated by the prior decision to invest in that industry in the first place. This observation leads us to suggest, in turn, that SAB's conglomerate diversification decisions may be seen as part of a broader interest in capturing a strategic investment, rather than a particular fraction of the equity of that investment, particularly on account of the small empirical estimates reported here of the returns to be expected from monopolistic or "industry dominating" behaviour.

Thirdly, since the ability and foresight necessary to identify strategic industries are normally associated with *entrepreneurial* abilities, the following tentative conclusion, further supported below, may be offered: The system of conglomerate diversification is designed to support and capture this peculiar entrepreneurial

talent. In particular, there do not appear to be good reasons to suspect that the activities of a highly talented entrepreneur should be limited to a particular industry. This follows immediately from the above conception of entrepreneurial ability, namely a skill in identifying in advance strategically successful industries. Thus, the preceding analysis suggests the tentative general position that the likelihood that a conglomerate business format of individually successful components will emerge, is a distinctly positive function of the scope of any given entrepreneur's skills (Gerson, 1992).

5.3 THE FIRM IDENTIFICATION DECISION

At this point, the analysis has investigated two of the elements of SAB's historical financial performance. The first element of SAB's profitability is related directly to the firm's strategy of conglomerate diversification, while the second element is related to an hypothesised strategy of strategic equity concentrations in various industries. The analysis suggested, in particular, that the first element, termed 'sectoral identification', has had a distinctly positive impact on SAB's historical financial performance. In particular, the existence of a significant industry effect suggests that SAB has had a special historical ability to identify relatively profitable industries. The analysis found, in addition, that the second element of SAB's profitability, termed 'sectoral allocation', has had a relatively small impact on SAB's historical financial performance. The insignificant "market" effect suggests, in line with our conclusions in an earlier chapter, that SAB's profitability does not depend to any extraordinary extent on its concentration within various industries.

But up to this point, our analysis has considered only sectoral decisions, that is, decisions relating to the identification of various sectors, and the allocation of wealth among these sectors. The present section identifies a third element of SAB's profitability. In particular, the analysis aims to estimate the historical benefits that have accrued to SAB purely as a result of its firm identification decisions. As noted above, the significance of an overall industry effect suggests that the performance of firms will correspond more closely within a particular industry or sector than within the market as a whole. This suggests that a particular firm's profitability will at least to some extent be composed of the profitability profiles of firms in the same industry. But some firms will obviously outperform other firms, even within the same industry. That is, although industry effects are significant, there are also "firm-specific" factors—such as the quality and expertise of one firm's management, rather than the managerial expertise of another firm—that impact on a firm's profitability. In this section, following the mode of empirical analysis introduced above, two indices are constructed to isolate the impact of firm specific influences on SAB's profitability.

The first index represents SAB's actual stock price returns, derived in a straightforward way from published data on SAB's stock price, while the second index represents a simulation of SAB's

performance derived from the sectors in which SAB maintains listed investments. Thus, the second index merely substitutes for each of SAB's investments in a particular firm, an equivalent investment in the corresponding sector. The difference between these two indices may be regarded as the benefits which accrue to SAB on account of its decision to invest in a particular firm within a given sector (given by the firms in which SAB has actually maintained investments), rather than the average firm within that sector (given by the 'average' firm, or by proxy the sector index itself). Returns available from these indices are presented in Figure 4.

FIGURE 4. FIRM-SPECIFIC RETURNS FOR SOUTH AFRICAN BREWERIES, 1980 - 1996.

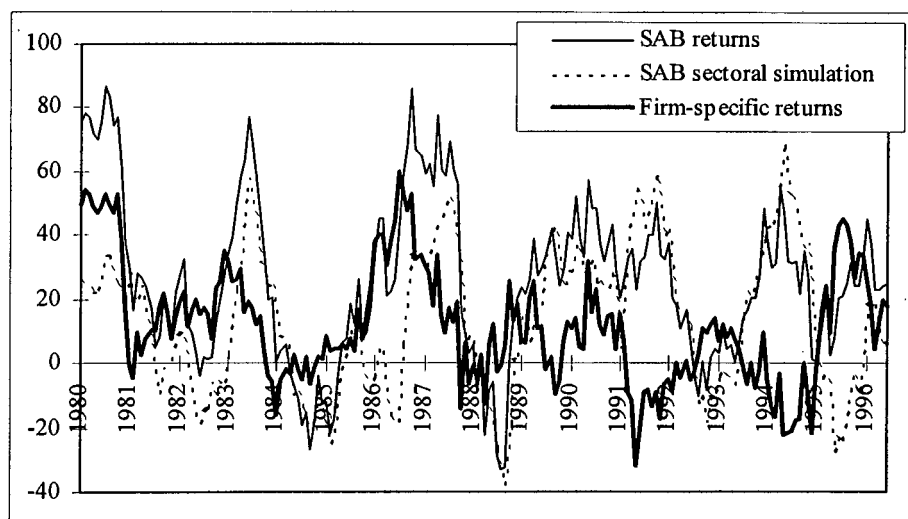


Figure 4 indicates that firm-specific effects, as identified by the empirical procedure outlined above, is consistently positive, although this effect is not quite as regular in its impact on SAB's profitability as the industry effect observed earlier. For example, SAB's firm-specific returns appear to be (almost) universally positive between 1980 and 1988, while there appears to be a smaller (but on average significantly positive) firm specific effect between 1988 and 1996. And over the full period, the firm specific effect for SAB appears to be generally positive. Thus, in addition to SAB's distinct historical ability to identify strategic sectoral investments, there appears to be a secondary ability to identify strategic firms, that is, firms which are consistently profitable relative to the population of firms in the same sector or industry. Indeed, the following section estimates that around 44%—very nearly half—of the SAB group's total historical financial performance may be attributed to firm specific factors. Thus, the firm identification decision appears to have similarly crucial implications for SAB's historical financial performance as the sectoral identification decision.

But despite the similarities between these two effects, it is important to maintain a distinction between the sectoral decision discussed earlier, and the firm identification decision discussed

here. For our purposes, the most important difference may be framed as follows. The benefits (or costs) that result from sectoral identification are not transferable across industries, since successful sectoral identification decisions (or significantly positive “industry” effects) imply a commitment to the identified or “ear-marked” industries. That is, once a decision has been made to invest in a particular sector, and once a proportion of wealth has been allocated to that industry, the decision may be taken as a final commitment, or a fixed stream of benefits or costs. Of course, the investor will subsequently be able to avoid a negative industry effect, for example by disposing of his equity investment in the industry. But a fixed stream of net costs (as opposed to net benefits) will be found only in an industry undergoing natural decline (as opposed to an “emerging” industry). And a sectoral identification strategy will aim to avoid in its selection of successful industries those which are in a process of natural decline, seeking instead to concentrate investments in strategically successful industries.

Thus, a successful sectoral identification strategy is expected to yield not only a *positive* stream of benefits; the benefit stream will also be *consistently* positive. The consistency of an industry effect derives, of course, from the “inherent” profitability of the selected sectors relative to other, less profitable sectors. Since a profitable industry will not usually be expected to be profitable at one time, and unprofitable soon after, and thereafter profitable again, the industry effect will usually be consistent. Indeed, this is the pattern detected in Figure 1 above, which indicates clearly the consistency of South African Breweries’ positive industry effect. Responsibility for this commitment, of course, must ultimately rest with the founders of SAB, who made the decision to invest in the South African malt beer industry more than 100 years ago.

But unlike industry factors, there appears to be no similar commitment, nor then consistency, for firm-specific factors. In particular, firm specific factors, unlike industry factors, are transferable between companies and industries, at least to a larger extent than industry factors. That is, the boundaries of the firm or industry will not represent a restriction on the portability of the stream of returns derived from firm-specific factors, such as the quality and expertise of the firm’s management. This is not to suggest, of course, that managerial expertise is an “amorphous substance ... which can be applied with equal success to totally unrelated lines of business” (Mueller, 1973). However, it is an indication of the special ability that good management will usually have to manage a bundle of diverse resources, whether those resources are devised as physical capital or human labour; or whether they are regarded as the physical capital of a malt brewery or the human labour of a television network. Therefore, it will not be argued, as Chandler (1977) does, that “because multidivisional firms create a level of management specifically concerned with the coordination of specialised decisions, they are inherently more efficient and thus more profitable than their lines of business would be separately” (Berger and Ofek, 1995). This is a matter for empirical

verification. The less controversial claim will be made, here, that *to the extent these special abilities exist*, the advantages that flow from them will be more freely transferable across different firms.

But since firm-specific factors, such as managerial expertise, are transferable among firms and sectors, they may over any extended period of time be positive or negative, or *vice versa*, and will therefore not be necessarily consistent. In some circumstances, for example, good management will leave a particular firm in search of other opportunities. In other circumstances, a poor quality of management may persist in the firm for some extended period of time. There is therefore nothing implicit in the nature of firm-specific factors which suggests that they will have a durable or consistent impact on the firm's profitability. Instead, it might be expected that certain periods are characterised by positive firm specific factors—such as a sustained period of good management—while other periods are characterised by negative firm specific factors. Thus, in contrast with industry effects, there do not seem to be compelling reasons to expect that firm effects will be consistently positive, or consistently negative.

Now if we turn again to Figure 4, it may be seen that firm-specific factors for the SAB group have been consistently positive, except for two brief occasions in 1991 and 1994. And even though the returns that accrued to SAB from firm specific factors were distinctly higher, on average, between 1980 and 1988 than over the period between 1991 and 1995, firm-specific returns—which, as will be seen below, account for roughly one-half of the SAB group's total historical returns—have been generally positive over a large part of the full period. The significance of these factors, on average, suggests that firm effects are an integral component of SAB's program of conglomerate diversification. In particular, the conglomerate may have a useful ability to encourage or ensure a consistent stream of firm-specific benefits. To use managerial expertise as an example, the conglomerate may be able to achieve a historically consistent and significantly positive "firm" effect by facilitating the transfer among subsidiaries of the calibre, quality and expertise of management, or in some way by avoiding poor management altogether. The same result would appear to apply to other firm-specific factors, which are not restricted exclusively to managerial expertise.

Thus, quite apart from the identity of the firm specific factor, it would appear, in general, that successful conglomerate diversification strategies—such as the one followed by South African Breweries—capture in their returns (presumably because they facilitate in their operations) the inter-firm and inter-industry distribution of significant, positive firm specific factors. This observation suggests that an ordinary stock market investor, having invested in a portfolio of representative or randomly selected firms in the same sectors as SAB, would obtain lower returns than the returns available from a direct investment in SAB's stock. Obviously, the returns from a direct investment in SAB's shares will be different from the returns obtained from a simulated portfolio of SAB's listed investments, purely because the former includes the highly profitable, unlisted malt beer division. But quite apart from SAB's beer division, and abstracting for the moment from SAB's ability to identify strategic industries, discussed earlier, the advantage of a

direct investment in an SAB share appears to include SAB's peculiar ability to identify strategic firms. This advantage would not appear to be possible, of course, without a direct investment in SAB itself.

5.4 THE ECONOMIC RATIONALE FOR CONGLOMERATE DIVERSIFICATION

Despite our decision throughout the dissertation to focus on a particular firm, the empirical analysis in the preceding sections has been able to suggest a series of general results about successful conglomerate diversification strategies, as typified by SAB. In particular, the empirical analysis in the preceding sections suggests that the economic rationale for conglomerate diversification consists of at least two elements.

TABLE 1. COMPOSITION OF SAB'S CONGLOMERATE RETURNS, 1980 – 1996.
(proportion of total conglomerate-type returns in parentheses)

Year	Conglomerate returns		Monopoly returns	Total returns
	Industry effect	Firm-specific effect	Sector allocation effect	
1980-85	8.7 (31%)	16.2 (57%)	3.5 (12%)	28.4 (100%)
1968-90	16.1 (47%)	16.6 (48%)	1.8 (5%)	34.4 (100%)
1991-96	13.2 (65%)	3.6 (18%)	3.4 (17%)	20.2 (100%)
Average	12.4 (45%)	12.1 (44%)	3.0 (11%)	27.5 (100%)

Firstly, the decision-making body responsible for the portfolio identification and allocation decisions within the conglomerate appears to have a special ability to identify strategic sectors, that is, sectors which have a distinct potential *in advance* for superior profitability, and which actually produce *in retrospect* superior financial performance. This conclusion may be confirmed in Table 1, which summarises numerically the historical data presented in Figures 2 to 4.

The following observations may be drawn from Table 1. Firstly, Table 1 suggests that the SAB group's special sectoral identification ability, which may be regarded as a positive "industry" effect, has historically been highly significant. Between 1980 and 1996, for example, the industry effect contributed on average around 45% to the SAB group's total returns. This suggests that almost one-half of the SAB group's historical returns may be attributed to its ability to identify "strategic" industries.

Secondly, Table 1 indicates that within each of SAB's strategic industries, SAB appears to have the additional ability to identify "strategic" firms—those firms which have a distinct potential for superior financial performance. This ability on the part of SAB's management, which may be regarded as positive "firm specific" effects, is at least as significant as the "industry" effect. Table 1 indicates from historical data that the firm-specific effect contributed around 44% to SAB's stock market returns between 1980 and 1996.

Thirdly, it may also be noted from Table 1 that the significance of SAB's "industry" effect has increased closely in line with dramatic increases in the group's conglomerate merger activity. For example, SAB made investments in only 4 distinct companies between 1895 and 1980—namely, Southern Sun (1969), Afcol (1973), OK Bazaars (1974), and Coca-Cola (1977). During the period considered in Table 1, SAB made significant horizontal expansions into the operations of 8 different companies—Scotts (1981), Edgars (1982), Appletiser (1982), Sun International (1984), Ceres (1986), Lion Match (1987), Da Gama textiles (1989), and Plate Glass (1992). It should only be noted that these observations are directly linked, in a pure causal sense: Firstly, we have defined a "conglomerate" as a business enterprise which maintains operations in various horizontally unrelated industries. Secondly, our empirical methodology is devised in a way that measures the benefits that flow from maintaining investments in a variety of horizontally unrelated industries. It is not an unexpected result, therefore, that SAB's historical "industry" effect has increased neatly with the group's expansion into a broader range of industrial enterprises. After all, the preceding analysis suggests that SAB has a historical ability to identify strategically successful industries.

Finally, Table 1 indicates that the 'sector allocation' effect has historically been a relatively insignificant determinant of SAB's returns. This observation suggests that deliberate variations in such factors as the degree of equity participation in a particular industry—which for large investments will correspond closely with the degree of industry concentration—do not enter into the determination of SAB's profitability in a significant way. Table 1 indicates, for example, that this effect contributed around 11% to SAB's total returns between 1980 and 1996. And as Figure 3 has shown, these returns are variable and highly inconsistent, which suggests that they may be used by SAB in a strategically significant way only with extreme difficulty.

Taken together, Table 1 suggests that SAB's industry and firm-specific effects account for roughly 90 percent of the group's historical performance as a conglomerate. It may be noted, by contrast, that the sector allocation effect has historically contributed around 10 percent to the SAB group's historical performance. This suggests that decisions about the extent of a conglomerate's participation in a particular industry—for extremely large investments this may be expected to correspond with the level of industry concentration—contribute substantially less to overall conglomerate performance. That is, the most important contributors to profitability appear to be involved with identifying and selecting strategic firms and strategic industries. The point was made earlier, for example, that the ability and foresight necessary to identify strategic industries are normally associated with entrepreneurial abilities; and that the conglomerate may have a useful ability to encourage or ensure a consistent stream of firm-specific benefits within its various associated businesses. The tentative conclusion may be drawn, then, that the system of conglomerate diversification is designed to support and capture this peculiar entrepreneurial talent; and

so, that the conglomerate facilitates the transfer among subsidiaries of the calibre, quality and expertise of management, or that the conglomerate in some way avoids poor management altogether.

6. EXTENDING OUR ANALYSIS TO THE SYSTEM OF “PYRAMIDS”

The results in the preceding section reinforce our distinction at the outset between conglomerate diversification strategies and positions of monopoly power. In particular, the preceding analysis makes the important point that a firm’s decision to be *involved* in a variety of industries (the sector identification decision) says nothing about the extent of the firm’s level of *participation* in those industries (the sectoral allocation decision) nor, then, about the potential for monopolistic behaviour within these industries. This result confirms the conclusion drawn previously that the observed level of economic concentration and the imputed level of monopolistic behaviour are unlikely to be related in a direct or straightforward way. This conclusion appears to be true, whether ‘concentration’ is framed as dominance in the supply of total industry output (see Chapter 1), or by dominance in the total industry equity (see above). That is, monopolistic behaviour and conglomerate diversification must, like economic concentration and monopolistic behaviour, be maintained as materially distinct phenomena. A distinction between these phenomena would appear to be especially important in this case, where the benefits of conglomerate diversification dominate very nearly all of the historical financial performance of a group such as South African Breweries.

Thus, we may distinguish, firstly, between economic concentration and monopolistic behaviour; and secondly, between monopolistic behaviour and conglomerate diversification. This section proposes a final distinction between the “triplet” of institutional forms, namely monopolies, conglomerates, and pyramids. Our conclusions lead us to expect that pyramids and conglomerates must—like industrial concentration and monopolistic behaviour; or concentration and conglomerates—be maintained as conceptually distinct phenomena.

SAB’s historical decision to invest in a particular group of sectors, rather than any other group, has been enormously successful, contributing on its own around 45 percent of SAB’s historical returns. SAB’s decision to invest in a particular group of firms, rather than any other group, has been similarly successful, contributing on its own roughly 44 percent of SAB’s historical returns. And SAB’s decision to allocate its wealth to a particular fraction of the sector’s outstanding equity, rather than any other fraction, has historically contributed around 10 percent to the group’s profitability. These observations lead us to suggest that sector- and firm-level identification decisions, unlike the corresponding allocation decisions, are relatively significant determinants of profitability, particularly in the case of a distinctly profitable firm such as SAB. This suggests that a primary determinant of SAB’s historical profitability derives solely from its conglomerate structure.

complete our investigation of the triplet of institutional and market structures (namely, conglomerates, monopolies and pyramids), this section attempts to quantify the historical returns that have accrued to SAB purely on account of the group's decisions to invest in a particular fraction of a firm's outstanding equity, rather than any other fraction. For investors like SAB, which has a significant volume of wealth available for investment, this decision may be framed as the 'pyramid' decision, or the decision to take up a majority or controlling stake in the outstanding equity of a particular firm, rather than, say, a minority stake. As may be appreciated, this decision may be framed as a corporate control decision.

To evaluate the historical contribution of this type of corporate control decision to SAB's profitability, the analysis utilises the same empirical methodology employed throughout this chapter. In particular, the returns on a simulated portfolio of SAB's investments *using SAB's actual historical portfolio weights*, are contrasted with the returns on a similar portfolio *using a system of equal portfolio weights*. The difference between these two return streams would appear to represent the benefits that accrue to SAB purely on account of the group's decision to invest according to a particular weighting strategy, rather than the control or neutral decision of equal portfolio weights. As may be seen, this sort of decision will correspond, for large investments, with the decision to take up a majority or controlling stake in the outstanding equity of a particular firm, rather than a minority stake. An empirical estimate of the historical success of SAB's corporate control strategy may be seen from Figure 5.

FIGURE 5. FIRM ALLOCATION EFFECTS FOR SOUTH AFRICAN BREWERIES, 1980 - 1996.

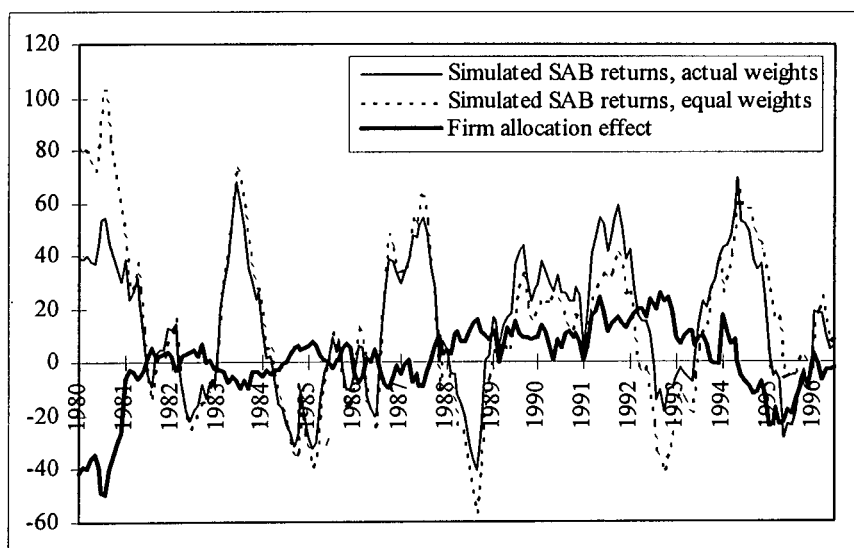


Figure 5 indicates that the benefits which have historically accrued to SAB, purely on account of the group's corporate control strategy, appear to follow distinct trends over time. The benefits of control appear to be negative before 1981; insignificant between 1981 and 1987; positive and increasing

between 1987 and 1993; and negative since 1994. This observation suggests that SAB's corporate control strategy was successful between 1987 and 1993, when the portfolio weightings chosen by SAB proved better for the group's aggregate performance than a neutral or control strategy of equal weights. Similarly, SAB's corporate control strategy was largely unsuccessful between 1993 and 1996, when a different weighting strategy than the one followed by SAB would have provided superior results.

It is interesting to note that the period of 'success' in this area coincides neatly with SAB's increased conglomerate merger activity between 1987 (when the group acquired Lion Match) and 1993 (shortly after the group acquired Plate Glass). Similarly, the period of corporate control 'losses' coincide with the period when SAB's investment in OK Bazaars proved to be an exceptional failure (SAB, 1995). The conclusion to draw from these observations is that SAB's corporate control strategy has not provided consistently positive results. This suggests, in turn, that SAB's consistently superior profitability may not be explained to any significant extent by the group's pyramid or corporate control strategy.

This conclusion is confirmed in Table 2, which contrasts the various components of SAB's profitability discussed above.

TABLE 2. COMPOSITION OF TOTAL RETURNS, 1980 – 1996.
(proportion of total returns in parentheses)

Year	Conglomerate returns		Monopoly returns	Pyramid returns	Total returns
	Sector identification	Firm identification	Sector allocation	Firm allocation	
1980-85	8.7 (40%)	16.2 (74%)	3.5 (16%)	-6.4 (-30%)	22.0 (100%)
1968-90	16.1 (41%)	16.6 (42%)	1.8 (5%)	4.8 (12%)	39.3 (100%)
1991-96	13.2 (54%)	3.6 (15%)	3.4 (13%)	4.3 (18%)	24.5 (100%)
Average	12.4 (44%)	12.1 (43%)	3.0 (11%)	0.6 (2%)	28.1 (100%)

Table 2 indicates that the firm allocation or "pyramid" effect is almost entirely insignificant over the long term. Between 1980 and 1996, for example, the proportion of SAB's returns that result directly from the pyramid-type strategy of corporate control amount to around 2 percent of total historical returns. And over the same period, the "pyramid" effect is highly inconsistent, accounting between 1986 and 1990 for around 12 percent; between 1991 and 1996 for around 18 percent; and between 1980 and 1985 for *negative* 30 percent of SAB's total returns. Thus, as is the case with "monopoly" effects, the "pyramid" effect is dominated almost completely by the contribution of SAB's conglomerate strategy to the group's historical performance.

This observation suggests the following conclusions. Firstly, as noted earlier, pyramids and groups must be maintained, like monopolies and conglomerates, as conceptually distinct phenomena. Their implications for financial performance are substantially different, as we have shown. Secondly, the corporate control

strategy implicit in SAB's pyramid-type arrangements contribute a relatively insignificant fraction (around 2 percent) to the group's overall historical performance. Thirdly, the monopoly-type strategy of economic or industrial concentration contributes a similarly insignificant amount (around 11 percent) to the SAB's historical profitability. Thirdly, the two special conglomerate strategies—sector and firm identification—dominate total returns completely; taken together, these two factors account for around 87% of SAB's total financial performance. Thus, the “twin” entrepreneurial abilities contained within the strategy of conglomerate diversification—identifying in advance strategically successful firms and industries, and subsequently deriving a greater success from these firms than might be expected—appear to be by far the most important determinants of SAB's superior historical profitability. Finally, the theoretical and empirical work conducted in South Africa has focused almost exclusively on the system of pyramids, as will be seen in the following chapter. For the moment, it will be sufficient to note that the function, and equivalently the performance, of conglomerates is central to the whole system of pyramids and groups. Thus we may frame the tentative suggestion, supported further below, that the academic literature in South Africa should concern itself primarily with conglomerates—their function, performance, and consequences—rather than the system of pyramids, which as we have seen empirically, serves a less important economic function.

7. CONCLUDING REMARKS

An explanation for the superior historical performance of the SAB group is the underlying aim of this dissertation. The previous chapter examined the claim that SAB's superior profitability results from the firm's monopolistic position in the South African malt beer industry. This claim was comprehensively refuted; we observed, for example, that SAB's *superior* profitability should not be seen as *excessive* profitability, since the firm operates under at least the same competitive pressures, as well as the additional pressure of government influence in the malt beer industry, that might be expected of any other firm. Since the analysis concluded that monopolistic conditions do not characterise the malt beer industry, we concluded simultaneously that SAB's profits, while superior, may not be seen as ‘excessive’, as would be the case in monopolistic circumstances. Thus, it might reasonably be concluded that an alternative explanation must be sought for SAB's historically superior financial performance.

The present chapter introduced the two remaining elements of SAB's corporate structure that are of immediate interest, namely the group's twin strategies of conglomerate diversification and pyramid-type corporate control. The former was investigated in some detail, while the latter will be examined in the following chapter. In particular, our analysis drew the conclusion that the two special entrepreneurial abilities which appear to underlie conglomerate diversification—identifying in advance strategically successful firms and industries—appear to be by far the most important determinants of SAB's superior

historical profitability. That is, our analysis found that the corporate control strategy implicit in SAB's pyramid-type arrangements, and the monopoly-type structure implicit in the level of concentration in the South African malt beer industry, contribute a relatively insignificant fraction to the group's overall historical performance; taken together, these factors represent a historical maximum of around 13 percent of SAB's total stock market returns, relative to a total 97% derived exclusively from the twin conglomerate abilities of identifying strategic firms and industries.

Several interesting applications follow from these observations. For example, the government will usually have an interest, on a variety of political grounds, in the concentration of equity ownership in the economy. The government may also have an interest in the concentration of industry supply conditions in various industries. And where the perception prevails among politicians and government officials that concentrations of economic activity, equity ownership, or corporate control are indicators of an undesirable distribution of wealth, or grounds for the suspicion of anti-competitive behaviour, the political interest in these economic conditions may be expected to increase accordingly. The analysis contained in this chapter has several important points to raise about precisely this issue.

Firstly, conglomerates, as separate economic entities, do not merit political or regulatory attention on either of these grounds. That is, the distribution of wealth and the concentration of industry supply may, in fact, constitute legitimate grounds for a political assessment of pyramids and monopolies, respectively. But these political considerations do not appear to be reasonable grounds for any type of analysis of conglomerates, since as economic phenomena, conglomerates are conceptually distinct from monopolies and pyramids. In particular, concentrations of corporate control (through the elaborate system of pyramids), concentrations of industry supply (through a dominant position in a particular industry), and a presence in various horizontally unrelated industries (through conglomerate diversification), were shown to have substantially different implications for historical financial performance. These observations prompt the conclusion that conglomerates, pyramids, and monopolies are conceptually distinct phenomena, and therefore that these economic entities must be treated accordingly, not only for purposes of economic analysis, but also for political and regulatory purposes.

Secondly, so far as the economic implications of conglomerates are concerned, particularly as distinct economic entities, the advance identification and advance selection of strategically successful firms and industries appear to be the most important single contributors to a conglomerate's historical financial performance. And since the ability and foresight necessary to identify strategic firms and industries are normally associated with the special range of abilities normally evident in entrepreneurs, our analysis suggests in turn that the system of conglomerate diversification may be designed to support and capture these special entrepreneurial talents. And so, successful conglomerates appear to facilitate among their subsidiaries the transfer of positive firm-specific factors, such as the calibre, quality and expertise of

management; or that successful conglomerates in some way avoid poor firm-specific factors altogether. Taken together, these observations suggest that the conglomerate emerges spontaneously with a particular entrepreneur's superior ability to identify, and subsequently to manage, enterprises and activities in a wide variety of industries.

These observations suggest, firstly, that conglomerates serve a distinct and useful economic function; secondly, that the particular economic function served by conglomerates corresponds to the functions normally thought to reside exclusively in entrepreneurs; and thirdly, that these functions are served quite independently of the pyramids and monopoly situations which *may*—but equivalently which may *not*—be observed to occur at the same time. Thus, to the extent that South African Breweries is the representative South African conglomerate, a criticism of South Africa's vast system of conglomerate diversification may be expected to yield the same aggregate benefit as will typically be expected of a criticism of entrepreneurial activity in general. And so far as there are any doubts about the transferability of our results to the broader South African economy, we should note only that, by the selection of our research object this will be the case in many important circumstances: as noted at the outset, SAB has for a considerable part of its history been part of the most extensive conglomerate in South African history, and has itself been involved in a vast system of conglomerate merger activity. Phrased in this way, a criticism of conglomerate activity is no longer as meaningful, at least on its own, as might usually be expected.

CHAPTER 3

AN ANALYSIS OF CORPORATE CONTROL MECHANISMS WITH PARTICULAR REFERENCE TO SOUTH AFRICAN BREWERIES

1. INTRODUCTION

The emergence of large modern corporations has produced an unprecedented scale and scope of economic activity, concentrated within individual business enterprises. The sum of economic activity contained within the largest of the modern corporations—and consequently the wealth of those who own the corporations—rivals that of many governments, and internationally, some of the large colonial empires in history (Berle and Means, 1932). This result has primarily been achieved by the emergence of the corporation as a separate economic unit, with rights and responsibilities which are distinct from the rights and responsibilities of the corporation's providers of capital (Jensen, 1993). The modern corporation lowers its cost of capital, for example, purely because the liabilities of the corporation's capital providers are legally distinct from the liabilities of the corporation. In short, capital providers sacrifice part of their return, since investors do not assume liability for the consequences of the decisions taken on their behalf. The scale of economic opportunities, and the scope of individual business enterprises, have increased accordingly—to the point that some of the largest modern corporations are also conglomerates, evolving over time by the continuous discovery and acquisition of economic opportunities (Jensen and Ruback, 1983).

Significant problems must clearly be associated with business activity on such a large scale, particularly when large scale is accompanied by significant scope. Before the 1930s, for example, the orthodoxy in economics held the view—or at least preferred the view—that the economy should consist of isolated operators and atomistic competitors at a highly fundamental level (Berle and Means, 1932). It was assumed that each of these atomistic competitors acted passively to information signals offered by the marketplace. When an advertised price increased in the market, firms received a signal that the continuous interaction of consumers and suppliers demanded a greater valuation on the particular good or service. It mattered little whether the firm was small or large, for there were no further difficulties associated with the internal organisation of information flows, that is interpreting and acting on the market's signals. Within the large modern corporation, however, the smooth costless functioning of the economic information system, provided largely by signals in the marketplace, was now provided by an elaborate network of signals within the firm itself (Fama and Jensen, 1983). In this sense the modern corporation captured or “internalised”

much of the continuous stream of economic information signals previously provided by the marketplace itself.

The internal network of signals organised within the large modern corporation is subject to a wide range of difficulties, like any other information system (Holmström, 1979). In particular, the modern corporation achieved a distinction between “owners”—the personal and institutional holders of corporate equity—and “managers”—the owners’ representatives or agents who exert a substantial independent influence over the corporation’s resources. The conceptual and legal separation of ownership and control resulted, in turn, in a separation of the objectives that prevailed in the corporation. The owners, on the one hand, wished to have the corporations’ assets direct to particular goals, such as the intertemporal maximisation of profits or dividends; while the managers, on the other hand, wished to have the corporations’ assets direct to goals, such as the maximisation of executive compensation or staffs, which were essentially misaligned with the objectives of the owners. Thus on account of the separation of ownership and control observed by Berle and Means (1932), an important need arose to align the incentives of managers (agents) and owners (principals). In other words, the central result of the burgeoning of the large modern corporation may be framed as a principal–agent problem, with a concomitant separation of the owners’ objectives, and the objectives pursued by the corporations’ managers.

It should not be expected that these problems have gone unrecognised. For contemporaneously with the evolution of the large modern corporation, we should expect that there have emerged various systems to overcome precisely these problems, analogous with an economic equivalent of the natural selection process (Alchian, 1950). Corporate control mechanisms are just one solution, designed to overcome the vast informational problems associated with the optimal functioning of a large modern corporation. More particularly, alternative corporate control devices are designed to overcome the modern corporation’s principal–agent problem. The method of corporate control is designed to overcome the separation of ownership and control that emerged, of necessity, with the phenomenal growth of the modern corporation (Berle and Means, 1932). The need to monitor the vast resources owned by large corporations has produced a clearly identifiable class of professional managers, whose objectives and incentives are typically arranged independently of the objectives and incentives of the shareholders and other capital providers (Berle and Means, 1932; Alchian, 1965; Ross, 1973; Jensen, 1983; Fama and Demsetz and Lehn, 1985; Morck, Shleifer, and Vishny, 1989; Jensen, 1993; Barr, Gerson, Kantor, 1994). In consequence, various mechanisms of corporate control have emerged to supervise—and also to check—the objectives and incentives of managers, who would otherwise control the corporation’s aims and objectives, purely on account of their control over the corporation’s resources.

The present chapter may be framed as an investigation of corporate control mechanisms, particularly the function and consequences of these systems. The chapter aims to explain the various alternative forms that

corporate control arrangements may possibly take; and then to explain why the benefits of corporate control at South African Breweries, like all of the large South African corporations, are achieved through the system of pyramids, rather than from the equally viable competing systems of corporate control observed elsewhere in the world. The present section reviews the more important theoretical and empirical literature on corporate control mechanisms, from two distinct angles: firstly, we investigate the more important alternative mechanisms of corporate control, and secondly, the precise nature of pyramids, particularly as these structures are observed in South Africa.

2. CORPORATE CONTROL: A REVIEW OF THE LITERATURE

2.1 ALTERNATIVE MECHANISMS OF CORPORATE CONTROL

The theory of the firm is an attempt to assemble data about various aspects of business behaviour; to identify common patterns within the data; simplify these patterns into a group of more abstract underlying principles; and to distinguish between the causal forces in the firm's underlying behaviour. It seems natural, in terms of this characterisation, that our analysis of South African Breweries has followed a similar approach. In particular, the analysis has identified the consistent historical success of the SAB group, and framed SAB as the object of our analysis to learn about the source of its historical performance. Further, the analysis identified three structural features which might be expected to influence the group's financial performance—namely monopoly, conglomerate diversification, and corporate control. The firm's monopoly and conglomerate structures were examined in previous chapters. The present chapter investigates the last of these parallel structures—the system of pyramids—and aims to explain the function and financial consequences of this elaborate system, particularly as it applies to the South African Breweries group. The following sections, which review the literature on corporate control mechanisms, are intentionally brief. As will be seen, for present purposes, only a few features of the considerable recent literature are important. A perspective on the remaining features of these systems may be gained from Gerson (1992).

Essentially three broad models of corporate control are highlighted by the literature: the Anglo-American system; the German–Japanese model; and the systems of “pyramids” and low-voting shares. For purposes of this dissertation, the pyramid system is clearly the more interesting since it is the corporate control mechanism, not only for the South African Breweries group, but also for all the major mining, finance, and industrial groups in South Africa. In the present section, we investigate mainly the Anglo-American and German-Japanese systems, primarily as a comparative basis for our discussion of the South African system of pyramids, which is examined in the following section.

In the United States and the United Kingdom—to a smaller extent, Australia and New Zealand as well—managers and owners objectives are aligned by active participation in the stock market, primarily in the form of hostile corporate takeovers (Scherer, 1988). The operation of this system of corporate control—the “Anglo-American” system—may be outlined briefly as follows. The major shareholders of U.S. corporations tend to be individuals, rather than institutions. Strict regulation of the U.S. and U.K. financial systems, as well as active political and legislative support for dispersed equity ownership in both countries, severely limit the potential size of equity stakes that banks and large financial institutions may take in U.S. and U.K. companies (Roe, 1990). Bank holding companies in the U.S., for example, may not hold more than 5% of the voting stock of any non-banking institution (Bank Holding Company Act, 1956); and life insurers may not hold more than 2% of their assets in a single company, and no more than 20% in equity shares (Investment Company Act, 1940).

In the absence of large institutional participation in the market for corporate control, the active corporate control market has come to exist in the form of professional corporate ‘raiders’—individuals who, by means of highly publicised corporate takeovers, directly obtain from the stock market, large blocks of shares in under-performing companies; restructure these firms; introduce new management; and sell off the resurrected firms at a profit. Essentially, the stock market serves in the Anglo-American system as a mechanism of continuous competition for control, which forces an alignment of managers and owners incentives, by monitoring management performance, and disciplining wayward behaviour. The view that the stock market serves as a device for corporate control may be represented by the following quotation from Fama (1980):

“first set aside the presumption that a corporation has owners in any meaningful sense. The entrepreneur [should] also [be] laid to rest, at least for the purposes of the large modern corporation. The two functions usually attributed to the entrepreneur—management and risk-bearing—[must be] treated as naturally separate factors within the set of contracts called a firm. The firm is disciplined by competition from other firms, which forces the evolution of devices for efficiently monitoring the performance of the entire team and of its individual members. Individual participants in the firm, and in particular its managers, face both the discipline and opportunities provided by the markets for their services, both within and outside the firm.” (p. 288)

⁴ A distinction may be drawn between the Anglo-American model of corporate control, which is based on the corporate control mechanisms observed in the United States and the United Kingdom, and the mechanism of corporate control employed by the Anglo American Corporation of South Africa Ltd, which will be discussed in this chapter.

For present purposes, it is sufficient only to note that the stock market is the central feature of corporate control in the Anglo-American corporate control system (Gerson, 1992).

The German–Japanese Model

By contrast, corporate control in the German–Japanese model is exercised through the system of bank holding and life insurance companies. Large financial institutions in the countries which follow this model control the corporations through their large direct block holdings of equity (Roe, 1990). For example, the twin Japanese systems of *zaibatsu* and *keiretsu* amount to interlocking systems of industrial holding companies, with a bank or life insurer at the centre. By means of a similar mechanism, the German bank holding companies hold voting shares in industrial companies directly, and exercise their votes in these companies either in their own right, as custodians, or on behalf of the pension funds under their control. As an indicator of the significance of these arrangements, the Japanese financial institutions control roughly one-quarter of the stock of listed Japanese firms, while the German banks control as much as 40% of the market value of the stock market (Roe, 1990). By contrast, financial institutions in the United States control in the aggregate only 8% of the market value of the U.S. stock market. Thus the banks and insurance companies are the central feature of corporate control in the German–Japanese corporate control system (Gerson, 1992).

The primary differences between the Anglo–American and German–Japanese systems of corporate control are highlighted in Table 1.

TABLE 1. COMPARING THE ANGLO–AMERICAN AND GERMAN–JAPANESE SYSTEMS OF CORPORATE GOVERNANCE

	Germany	Japan	United Kingdom/
Executive compensation	Moderate	Low	High
Board of directors	Management/	Primarily insiders	Primarily outsiders
Ownership	Concentrated:	Less concentrated:	Diffuse/ Non-corporate
Capital markets	Relatively illiquid	Somewhat liquid	Very liquid
Stock market	Minor role	Minor role	Major role
Banking system	Universal banking	Main bank system	Fragmented

Source: Kaplan, S.N. 1997. Corporate Governance and Corporate Performance: A Comparison of Germany, Japan, and the U.S. *Journal of Applied Corporate Finance*, 9 (4). p. 87.

As may be seen from Table 1, the different features may be arranged on a spectrum of possibilities. In Germany and Japan, for example, ownership of corporate equity is highly concentrated; while in the U.S., corporate ownership is highly diffuse. In the U.S., the active corporate control or “takeover” market is highly developed in the form of the stock market; while in Germany and Japan, the market for corporate

control is similarly active, though primarily in the form of financial intermediaries—the so-called “universal” and “main bank” systems. Further, it may be seen that the primary difference between the Anglo–American and German–Japanese systems is the *diffusion* of corporate ownership and control in the U.S., and the relative *concentration* of corporate ownership and control in Germany and Japan. It seems an obvious question, why these differences exist. Before we address this question directly, it is necessary to introduce the system which prevails in South Africa, namely the pyramid system of corporate control.

The twin systems of “pyramids” and “low-voting” shares

The Anglo-American and German–Japanese corporate control systems outlined above have clear differences. As has been seen, corporate control is exercised almost exclusively through the stock market in the U.S. and the U.K., whereas in Germany and Japan, corporate control is exercised largely through the large financial institutions, primarily the banks. As such, institutional participation in the corporate control market is relatively limited in the United States and the United Kingdom (around 8%), while the banks and insurance companies have a strong presence in Germany and Japan (40% and 26%, respectively). In the U.S. and the U.K., the diffuse corporate ownership appears to be related to the wide dispersion of corporate control; while in Germany and Japan, ownership and corporate control are both relatively concentrated.

These differences are less important, relative to the observation that corporate control activities are significant—admittedly with differences in the *degree* of corporate control—in all of the countries considered, namely the United States, the United Kingdom, Germany, and Japan (Roe, 1990). For example, the German–Japanese system exists, not only in Germany and Japan, but also in Canada, France, and The Netherlands, among other countries. That is, there appears to be a distinct preference in the largest industrial economies of the world for concentrations of corporate ownership, apparently with the ultimate aim of concentrating control of the corporations in the hands of a small number of investors. That is, regardless of the alternative forms in which these systems exist—the German bank holding companies; the Japanese insurance companies; the active takeover market in the United States and the United Kingdom; and as will be seen below, the systems of “pyramids” and low-voting shares in South Africa, Denmark, Finland, Sweden, and Switzerland—the preceding analysis suggests only that the underlying preference for concentrated corporate control exists, in a cross-country context, as a strong empirical regularity (Gerson, 1992).

2.2 AN OUTLINE OF THE PYRAMID SYSTEM OF CORPORATE CONTROL

The previous sections framed the salient features of the alternative corporate control systems in four of the major industrial countries—the United States, the United Kingdom, Germany and Japan. Firstly, concentrations of corporate ownership seem to situate the control of a corporation in the hands of a small

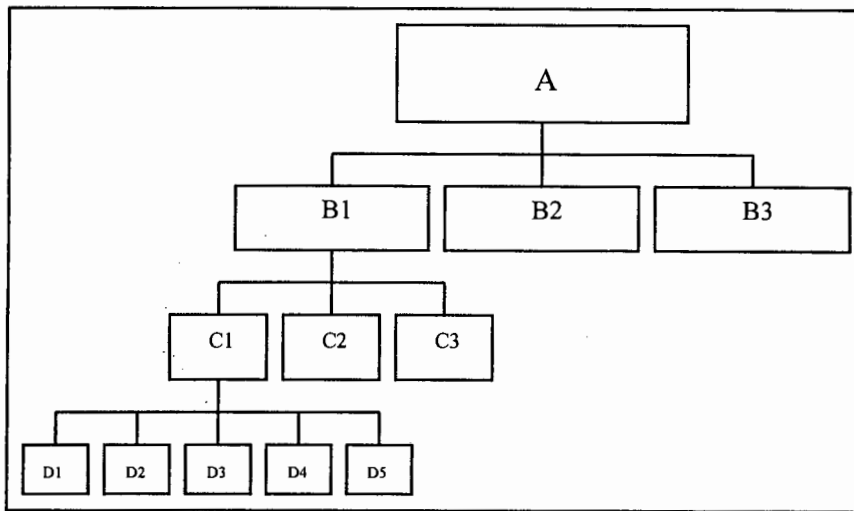
number of shareholders (Shleifer and Vishny, 1986), perhaps even one dominant shareholder (Morck, Randall and Vishny, 1989). Secondly, concentrations of corporate control appear to allow the controlling shareholder—the banks in Germany and Japan, the major blockholder or corporate raider in the U.S. and the U.K.—a continuous opportunity to monitor and supervise the management of their resources, and also to discipline wayward behaviour on the part of the corporations management (Demsetz and Lehn, 1985). Thirdly, there appears to be a distinct preference, in the largest industrial economies of the world, for concentrations of corporate ownership; that is, in a cross-country context, there appears to be an underlying preference for concentrations of corporate control. In the present section, we extend these features of alternative corporate control mechanisms to the South African system of “pyramids”.

It should be noted that the preceding chapters have used the terms “conglomerate” and “pyramid” in their broad, generic sense, and exclusively as these respective systems apply to SAB. The analysis has pointed, for example, to the corporate control dimension of pyramids in general, without an explicit discussion of the nature of these peculiar corporate control mechanisms. Clearly, before an explanation may be offered for SAB’s pyramid structure, or alternatively why SAB does not form part of the equally viable alternative systems of corporate control discussed above, the precise nature of pyramids should be investigated. These issues are addressed in the present section, by way of a review of the more important theoretical and empirical developments in the academic literature.

It was noted at the outset that the South African corporate landscape is dominated by a small number of large, diversified conglomerates, commonly known as “groups”. SAB, for example, was selected as the object of this analysis for precisely the reason that the SAB group is central to the system of conglomerate diversification in South Africa: the group is itself a conglomerate, and at the same time forms part of a broader conglomerate. But the country’s largest groups, namely Anglo American, Rembrandt, Anglo Vaal and Liberty Life, are typically also “pyramids”, or tiered systems of holding and operating companies.

The basic pyramid format may be seen in Figure 1.

FIGURE 1. AN OUTLINE OF THE BASIC PYRAMID STRUCTURE.



As may be seen from Figure 1, a distinction between conglomerates and pyramids is difficult to draw at first. Both forms reflect the fact that operational activities will ultimately be maintained in a variety of different firms and industries (D1 through D5 in Figure 1); both are characterised by holdings and cross-holdings of equity (B1 and C1, C1 and D3, and so on); and neither is characterised by a “flat” organisational structure (as may be seen from the vertical extension of levels A, B, C and D). In the face of the similarities between these two corporate structures, at least as they are observed in reality, it should be clear why this chapter aims precisely to explain why the pyramid structure fits so neatly onto the conglomerate structure.

Apart from the structural similarities between groups and pyramids, a distinction between these corporate structures may be drawn as follows. As conglomerates, the groups are combinations of horizontally unrelated business enterprises. As the previous chapter has shown, the groups are ‘diversified’ in the same sense that an ordinary portfolio of equity shares is usually a combination of ‘distinct’ equity investments. So the business enterprise represented in Figure 1 may be characterised as a conglomerate if business units D1 through D5 are involved in distinctly different lines of business. Pyramids, on the other hand, are a class of corporate control mechanism, and are arranged in such a way that the pyramid’s apex (A in Figure 1) is able to regulate the performance of the pyramid’s associated or subsidiary business enterprises (levels B through D). In particular, the pyramid’s apex will maintain a controlling interest in business unit B1, which will in turn hold a controlling interest in business unit C1, which in turn will control business unit D1. (For practical purposes, a ‘controlling’ interest may be defined as a simple majority of the issued equity capital. More generally an investor, or group of investors, will have a ‘controlling’ interest if they hold a larger fraction of the issued equity capital than is held by any other group of investors.) In this way, the apex maintains control of the business operations at each successive level in the pyramid. Clearly, the

effect of the apex's control over the business operations at every single level of the pyramid is to control, at the same time, the business operations of the ultimate unit in the pyramid.

2.3 THE PYRAMID FORM OF CORPORATE CONTROL: THE EXAMPLE OF SOUTH AFRICAN BREWERIES

Thus pyramid and group structures are conceptually distinct: groups, that is conglomerates, relate to the composition of a particular portfolio, to the identity of the business's activities within each distinct element of the business hierarchy, and therefore to the business's *ownership* of a portfolio of investments. Pyramids, on the other hand, relate to the management and control over the portfolio's individual assets, to the relationships between the elements in the business hierarchy, and in particular, to the ultimate *control* over the portfolio of investments. Thus, a pyramid is not necessarily a diversified conglomerate; such an arrangement may be seen from Mr. Ackerman's control over Pick 'n Pay, which has the above elaborate system of control arrangements, but which is involved in only one line of business, and does not qualify therefore as a conglomerate. Similarly, a group is not necessarily a pyramid, though there does not appear to be a precedent in South Africa for this type of arrangement. As indicated above, in fact, this chapter wishes to explain precisely why these two corporate structures coincide in the case of the SAB group, and also in the broader South African corporate landscape.

In summary, a conglomerate is a form of *diversified corporate ownership*, while a pyramid is a form of *concentrated corporate control*. That is, a conglomerate is a bundle of firms which nominally maintains operations in a variety of apparently unrelated industries. A pyramid, on the other hand, is an economic device which has the effect of concentrating, in an "ultimate controller", control over the various underlying assets. The interaction between these twin structures—conglomerate and pyramid—may be seen from the corporate history of South African Breweries, most particularly in the 1983 contest for corporate control of SAB, between Anglo American and Old Mutual. The contest may be related briefly as follows.

In the early 1980s Associated British Foods (ABF), a firm based in the United Kingdom, sought to reduce its exposure to South Africa. ABF aimed, in particular, to sell its 52% controlling interest in Premier, one of the country's largest food "combines" (as conglomerates were then known), which in turn held a 34% controlling interest in South African Breweries. Clearly, the problem for ABF related to finding a willing buyer, at an acceptable price. The first component of the transaction, a willing buyer, was found in the Anglo American Corporation. Possibly, Anglo's interest was a response to competitor Barlow Rand's creation, in 1983, of the Tiger & Sugar (Tisugar) giant, which increased controlling partner Old Mutual's interest in the Barlow Rand corporation beyond that of Anglo American. More probably, Anglo had been eager to acquire a significant stake in SAB for some time; as has been seen, SAB was as an extremely

profitable business in its own right (Financial Mail, 1983a). The second component of the transaction, namely an acceptable price, was offered by sustained and significant reductions in the discount between the foreign exchange value of the financial and commercial Rands, as well as the South African Reserve Bank's subsequent abolition of the dual currency system. Both developments enabled ABF to repatriate the proceeds of its disinvestment program at a relatively satisfactory exchange rate. The result of an enthusiastic buyer and an acceptable price was the sale of a controlling interest in Premier, by ABF, to the Anglo American Corporation.

Several features of this transaction merit attention. Firstly, Anglo and the Old Mutual were, originally, joint controlling partners of Barlow Rand. However, as a result of the 1983 takeover deal, Anglo's stake in SAB was increased to 34%, compared with the Old Mutual's 25% interest, changing the balance of corporate control significantly. This observation is in line with Anglo's traditional insistence on effective control, particularly at this level, over the corporations within its investment portfolio. Secondly, Anglo's partnership agreements, which enabled it to raise the funds to finance the takeover of Premier, changed dramatically as a result of the Premier deal. Anglo's association with Old Mutual was weakened in favour of competitor Liberty Life; and the banking relationship (through Old Mutual) with Nedbank had largely been replaced with an association (through Liberty Life) with the Standard Bank Investment Corporation. It appears, in fact, that Anglo American's alliances with other controlling interests do not stand in the way of significant changes in corporate control; it appears that relationships of long standing, such as the relationship with the Old Mutual, are also subject to intense scrutiny. This is a particularly interesting observation since the chairman of Old Mutual was angered by Anglo's takeover of Premier and SAB (Financial Mail, 1983b).

Finally, it should be noted that Harry Oppenheimer had recently resigned the chairmanship of Anglo American. (Oppenheimer did retain his joint chairmanship of E. Oppenheimer & Son and De Beers Consolidated Mines, and thus continued to exercise final control over the Anglo American Corporation.) For present purposes it is sufficient only to note that the effective transfer of operational and strategic control of Anglo American, from retiring owner Oppenheimer to former manager Gavin Relly, did not reduce the intensity of Anglo's contest for corporate control. Indeed, Relly's alliance with Oppenheimer's interests are most clearly evident from the hostility of SAB's senior management—notably Dick Goss (then managing director of SAB), Sol Kerzner (managing director of Southern Sun), and Meyer Kahn (managing director of OK Bazaars)—many of whom threatened to resign at the change of corporate control. According to Relly, a deal which promised “to give Anglo effective control of both Premier and SAB was far too important to be lost because it had upset a group of managers” (Financial Mail, 1983b).

There is clearly an economic rationale behind the corporate control activity related in the preceding example. The above features of the corporate control landscape have been noted by various authors in the

literature, notably Barr, Gerson and Kantor (see for example Gerson, 1992; Barr and Gerson, 1994; and Barr, Gerson and Kantor, 1995). These authors have devised a coherent economic explanation for the corporate control activities of the large South African corporations—in this case Anglo American—framed largely in the language of principal–agent theory.

2.4 PRINCIPAL–AGENT THEORY AND THE SYSTEM OF CORPORATE CONTROL

The most prominent explanation for the elaborate system of pyramids in South Africa is offered by Barr, Gerson, and Kantor (1992, 1994, 1995), who in general view the twin systems of groups and pyramids as efficient and superior outcomes to specific market allocation problems. These market allocation problems are addressed below. For the moment, it will be sufficient to note only that, as a first step, the analysis pays particular attention to the views of Barr, *et. al.* Firstly, the efficiency of the conglomerate and pyramid corporate structures has been most carefully and comprehensively articulated in South Africa by these authors. Thus, if attention is appropriate, then attention must be paid in the first instance to their views. Secondly, as has been seen, the position suggested by the previous empirical analysis is similar in its general outline to the position of these authors, who generally conclude that the pyramids are an efficient form of business organisation. Thus, criticising their view will, at the same time, have the effect of criticising the views expressed in a later section.

The general approach adopted by Barr, *et. al.* may be outlined as follows. The authors argue that conflicts of interest between principals (in the case of corporate activity, the principals are usually the shareholders) and agents (the corporation's managers) are substantial enough to account for the vast and elaborate system of pyramids in South Africa. They argue, in particular, that pyramids enable controlling shareholders, situated in the pyramid's apex, to contract management, and subsequently, to monitor management's behaviour. This view clearly has in mind a controlling shareholder who participates actively (at least, intervenes strategically) and who, by threatening to enforce discipline against wayward behaviour on the part of management, overcomes the problems usually associated with management's conflicts of interest *vis-à-vis* shareholders. Clearly, our finding in an earlier chapter, namely that the historical benefits of corporate control do not appear to be substantial for the SAB group, does not sit well with this view. The analysis should expect, instead, that an intricate and elaborate system of corporate control will result only if the historic benefits of corporate control are reasonably significant. Thus, in this section, we turn our attention to the shortcomings of the principal–agent framework proposed by Barr, Gerson and Kantor. It will be sufficient to note four general objections to the agency explanation.

2.4.1 EXCESS HOLDING COMPANY RETURNS

The first shortcoming of the principal–agent framework may be framed as follows. The hypothesis advanced by Barr, *et. al.* relies heavily on various empirical regularities, most notably that some—mainly mining—holding companies in South Africa earn rates of return in excess of the returns implied by simulated portfolios of their stand-alone components: the whole, in short, is greater than a simple summation of the constituent parts (Barr, *et. al.*, 1995). Of course, an explanation of this empirical regularity is important since there appears to be a long history of diversified conglomerates trading at *discounts* to their stand-alone components (Mandelker, 1974). And since South African conglomerates are peculiar—because they are usually also pyramids—it would seem plausible to ascribe the conglomerate’s (or more precisely, the pyramid’s) premium returns to the positive influence of shareholder (in contrast to management) control.

But underlying such an hypothesis is the perception of a fundamental asymmetry between the holding company and its component operating companies: namely, that the benefits of control are present in the holding company and, simultaneously, absent from the operating companies. Clearly, if the benefits of shareholder control were enjoyed by both the holding company and its component operating companies, then the holding company should not earn a rate of return in excess of the returns on its components. But so far as the benefits of control are concerned, it is a simple task to demonstrate that the holding company should not earn excess returns. In particular, it is the probability or *threat* that control will be exercised, and not necessarily the *exercise* of control, that is important in determining the likelihood that the controlling shareholder will oust the board of directors when they perform poorly. Control in this sense cannot be exercised by the holding company *independently* of its constituent operating companies.

Thus, control cannot be present in the holding company, and at the same time absent from the operating companies, since the threat of control resides (and the benefits of control are valued) either in both, or in neither. Therefore, excess returns to the holding company cannot be explained exclusively by the benefits of shareholder control. To explain the empirical regularity detected by Barr, *et al.*, an *asymmetric* explanation is necessary, that is, an explanation which accounts for benefits that reside exclusively in (and are valued only for) the holding company. The following section attempts to replicate the empirical regularity observed by Barr, *et. al.*, for South African Breweries. The analysis suggests that this empirical regularity constitutes evidence of the value of unlisted investments. The first example of “excess holding company returns” is derived in the way suggested by Barr, Gerson and Kantor. First, an index of SAB’s actual returns is obtained from regular quotations of SAB’s share price on the Johannesburg Stock Exchange. Secondly, an index is constructed that tracks the performance of SAB’s portfolio of listed investments.

The difference between these two performance measures is presented in Figure 3.

FIGURE 3. HOLDING COMPANY RETURNS FOR THE SAB GROUP, 1980 – 1996.

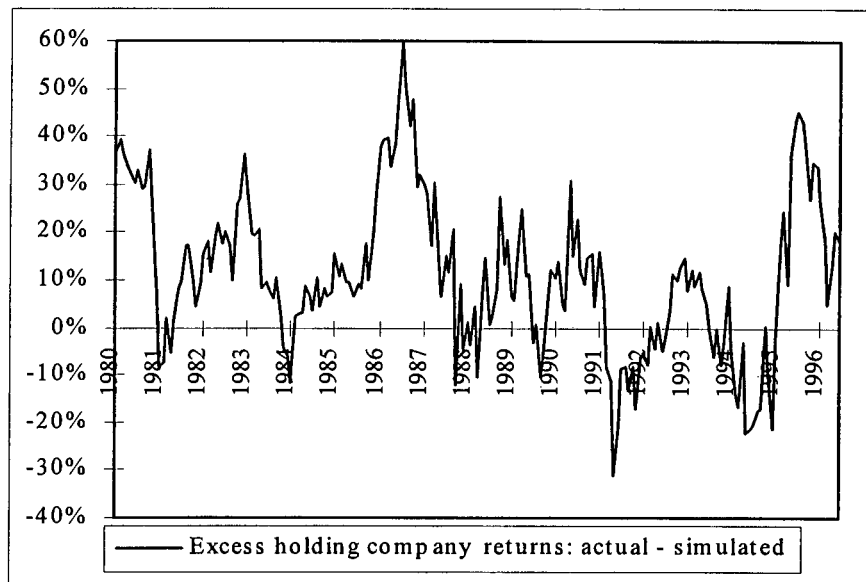
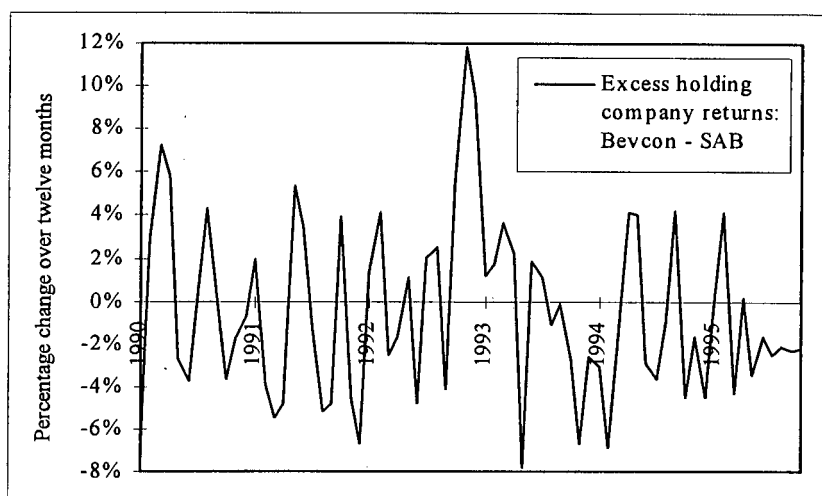


Figure 3 indicates, as Barr, *et. al.* predict, that SAB's returns consistently exceed the returns available from a simulated portfolio of the group's listed investments. But this must not be interpreted as a confirmation that the whole is greater than a simple summation of the individual components. Such a statement would suggest that *listed* components are the only significant components of the whole. In the case of South African Breweries, where the bulk of profits is contributed by the unlisted beer division, this is obviously incorrect. And given the obvious problems associated with the valuation of unlisted investments, there do not seem solid grounds on which to conclude that the unlisted investments contribute to SAB's overall returns in an insignificant way. Indeed, the best estimate of the contribution of an unlisted investment to the entire investment portfolio is the excess returns stream itself, as presented for example in Figure 3, which may be taken to represent, in the case of South African Breweries, changes in the market's valuation of SAB's beer division, and the SAB group's various unlisted investments, such as Southern Sun Hotels and Resorts (Pty) Ltd and OK Bazaars (1929) (Pty) Ltd.

The second example of "excess holding company returns" is derived in a way implicit in the work of Barr, *et. al.* Recall, for example, that a fundamental asymmetry is implied in their work: some element of the holding company is valued separately from the component operating companies, namely the value of concentrated corporate control. It was noted earlier that this "valuation asymmetry" does not make sense, which may be empirically confirmed from Figure 4. Figure 4 presents the difference in returns between SAB and Beverage and Consumer Holdings (Bevcon), whose *sole* asset is a controlling interest in SAB.

(As may be seen from Figure 2, Bevcon is controlled by Johannesburg Consolidated Investments (“Johnnic”) and ultimately—until the fairly recent sell-off to a consortium of Black investors—by the Anglo American Corporation.)

FIGURE 4. HOLDING COMPANY RETURNS FOR THE SAB GROUP, 1990 – 1996.



For our purposes, it is interesting to note from Figure 4 that the excess returns stream for South African Breweries is not consistently positive; the excess returns range between -7% and 12%, with an average of 0%, and a standard deviation of 4%. Indeed, these excess holding company returns appear to follow a random, unpredictable pattern, centred about zero.⁵ Thus, if the return stream depicted in Figure 4 does, in fact, represent the benefits of concentrated corporate control, then these benefits are by no means consistent, straightforward, or on average even positive.

Thus, in two different examples, the empirical regularity observed by Barr, *et. al.* cannot be supported by observation. Firstly, the excess returns between SAB and a simulated portfolio of SAB’s listed investments represent, not the benefits of concentrated corporate control, but changes in the market value of the portfolio’s unlisted investments. Secondly, the excess returns between SAB and the holding company which has SAB as its sole asset represent a complicated and inconsistent stream of corporate control benefits, if they represent the benefits of corporate control at all.

⁵ The Quenouille statistic may be used to gain a straightforward sense of the ‘randomness’ of stock market returns, based on the series’ autocorrelation structures. Using 12 lags, and annual returns on monthly data, the *Q*-statistic is 33.2 (at the 1% α -level), which indicates that the excess returns series presented in Figure 4 is, indeed, “random”. In particular, the excess returns series is not characterised by an autoregressive data-generating process.

2.4.2 CORPORATE CONTROL AND THE PROBLEM OF FREE-RIDERS

The second objection to the hypothesis proposed by Barr, *et al.* may be framed as follows. The authors estimate that the value of benefits which flow from shareholder control of the large South African mining houses ranges between 5.6 and 11.3 percent per annum (1995). The authors do not verify these excess returns across the entire spectrum of South African industry—and as was seen above, the empirical verification of excess holding company returns is not straightforward—but, if their hypothesis holds, then excess returns in roughly similar orders of magnitude should be expected for *all* companies with similar pyramid or control arrangements. The present dissertation is not so ambitious, however, and takes as its point of departure, instead, the fact that excess returns in roughly similar orders of magnitude should be expected for all companies with similar pyramid or control arrangements, *including South African Breweries*. Although the preceding analysis was unable to verify these excess returns for SAB, it will be sufficient for the moment to make the following general remarks.

If the numbers obtained by Barr, Gerson and Kantor are applied to the SAB group, which has a market capitalisation of more than R40 billion, then the direct pecuniary benefits that flow to all shareholders from Anglo American's ultimate control over the SAB group ranges between R2 and R5 billion per annum. (The analysis returns later to the point that these benefits flow, not only to the controlling shareholder, but to *all* shareholders.) These values seem extremely large, and increase dramatically when applied to the broader spectrum of groups quoted on the Johannesburg Stock Exchange. With a market value of R500 billion, the benefits which flow to the entire stock market range between R25 billion and R60 billion *per annum*, around 10 percent of South African GDP.⁶ In particular, the significance of the values obtained by Barr, *et al.*, reflects either very poorly on the propensity of South African management to act in a wayward fashion, or very well on the controlling abilities of some South African shareholders.

However, it should be noted that the mere improbability of these large numbers does not constitute evidence that the hypothesis advanced by Barr, *et al.* is incorrect. Rather, the principal objection appears to be that the significant pecuniary advantages of the magnitude envisaged by Barr, *et al.*, fail to explain why alternative systems of corporate control have not emerged in South Africa. In Germany and the Netherlands, for example, the banks are an alternative system of corporate control. And in Japan, banks and insurance companies are the important forms of corporate control and institutional monitoring (Roe, 1990). Returns of this magnitude would appear to justify the emergence of institutions which serve the explicit function of removing control of the corporation's operational assets from management. As has been seen above, it may easily be seen that South African banks are not serious competitors in the market for corporate control. In general, banks are discouraged in South Africa from investing in the equity

⁶ A weighted average of 5.6% and 11.3% yields 8.5%.

Applying this percentage: $0.085 \times R500bn = R42.5bn$; $R42.5bn / R480bn = 10\%$.

of the broader South African industry. Capital and reserve fund requirements for the general equity investments of commercial banks range, for example, between 100% (for general equity investments) and possible impairment (for equity investments in deposit-taking institutions outside the same group) (Government Gazette 12871, 1990). Therefore, since the practice of banks holding equity stakes in other companies (particularly in other banks) is either discouraged in South Africa, or at least appears to serve no special advantage, the question of South African banks as an alternative system of corporate control is, in general, ruled out.

But quite apart from banks as competitors for corporate control, a formal market for corporate control exists in the United States, and also in the United Kingdom, in the form of corporate takeovers (Jensen and Meckling, 1973). It may be, of course, that shareholder concentration is, as Demsetz suggests, “a monitoring mechanism more basic to and more continuously operating than the corporate takeover” (1986), in which case shareholder concentration would be a preferable system to a formal, external market for corporate control such as the stock exchange. In South Africa, however, it is important to note several basic objections to Demsetz’s underlying suggestion, namely, that the stock exchange as a market for corporate control is less desirable than concentrations of shareholder control.

The academic literature on the formal external market for corporate control (in the form of the stock market) highlights several objections to the view that the ‘waves’ of corporate takeovers which emerge from time to time are examples of the corporate control mechanism in action. The most important among these objections appears to be the “free rider” problem associated with corporate takeovers (Scherer, 1988). According to this view, a principal–agent explanation for the periodic waves of conglomerate mergers is implausible, since the benefits of takeovers on the open market flow, not only to the controlling shareholder, but to *all* shareholders. In particular, the benefits of corporate control flow to the controlling shareholder in relation to the proportion of the corporation’s equity *owned*, which as we have seen will always be significantly smaller than the proportion of the corporation’s equity sufficient for *control*.

Clearly, this objection may be used to argue that one of the most important reasons why corporate takeovers and formal markets for corporate control fail to exist, is not applicable in South Africa. The implication would appear to be that a market for corporate control would be a close substitute in South Africa for the system of pyramids, at least insofar as the corporate control functions of these alternative structures is concerned. Such a conclusion would, in turn, appear to suggest that the control function of a pyramid is not a complete explanation, either of South Africa’s system of pyramids or, given the conceptual equivalence under the agency explanation of pyramids and groups, of South Africa’s system of conglomerates. The argument may be presented briefly as follows.

The principal-agent or shareholder control explanation of the corporate takeover has been challenged from several quarters. An important challenge is that the benefits of control are publicly available, that is, non-

excludable. The corporate 'raider,' for example, cannot exclude the general investing public from the benefits of effective corporate control, since the benefits of reconstituting the management of a poorly performing firm cannot be diverted, from the minority shareholders, in his favour. Now it may be noted in South Africa—at least according to Barr, Gerson and Kantor—that the benefits of shareholder control are typically large. It has been noted earlier, for example, the claim that for a group such as SAB the benefits amount to around R3.5 billion per annum. However, the ownership stakes of South Africa's controlling shareholders are usually small. Gerson (1992) estimates, for example, that the Anglo American group *controls* between 30 and 45 percent of the underlying equity of the Johannesburg Stock Exchange, while it *owns* significantly less, around 12 percent.

This suggests that the benefits of control flow to the controlling shareholder in a relatively small magnitude, presumably in the order of magnitude of the controlling shareholder's percentage claim to dividends, which is usually much smaller than the effective percentage of control. Therefore, while it appears to be an attractive enterprise in money terms to exercise effective control over a business enterprise (since the benefits of control are evidently large, according to Barr, *et. al.*), it represents a significant problem for the agency model of pyramid control structures that institutions do not exist which exclude the general public from the benefits of effective shareholder control (it was noted earlier that the benefits of control flow, not only to the controlling shareholder, but to *all* shareholders). This is not to say that without some way for the controlling shareholder to appropriate the entire benefits of corporate control, it is unlikely that he should take steps to control the corporation in the first place. Rather, the corporate takeover and the pyramid both face the problem of being unable to raise a charge against the 'free riding' investor public. In this respect, then, there does not seem to be any obvious advantage of a *pyramid*, rather than any other, form of corporate control mechanism.

It would appear, then, that the control function of a pyramid is not a complete explanation of South Africa's system of conglomerates, since the control function is not peculiar to pyramids (or conglomerates), and might reasonably be expected to exist, under the agency hypothesis, in at least one alternative form, namely, the corporate takeover. This must not be interpreted as making the case that an external market for corporate control *should* exist in South Africa. Rather, the analysis points to the agency explanation's inability to explain why an external corporate control market *does* not exist, especially since the 'free rider' problem outlined above points to neither form in particular. The benefits of corporate control flow in the order of magnitude of proportional ownership, not only for the corporate takeover market, but also for the pyramid. Consequently, it would be a desirable feature of an alternative explanation of the system of groups and pyramids that it explains why the pyramid structure is different from each of the alternative systems of corporate control. In particular, it needs to be explained, not only why the pyramid structure observed in South Africa has come to exist from *within* the firm (in contrast to the alternative systems of

corporate control, which exist *outside* the firm), and at the same time why the system of pyramids in South Africa has come to exist within *conglomerate* firms.

2.4.3 ACCOUNTING FOR THE EMERGENCE OF PYRAMIDS

The third shortcoming of the principal–agent framework is that it does not provide a complete rationale for the conglomerate or “group” structure. While the group structure may be more profitable and *ex post* efficient, in part because the controlling shareholder’s reputation allows him to raise capital at a considerable discount (Barr, *et al.*, 1995), there is no integrated reason under the principal–agent hypothesis for the *ex ante* emergence of the *conglomerate or group* structure. It would be preferable, of course, in a more general explanation of South Africa’s system of pyramids and groups, to accommodate an explanation of the emergence of these institutions. Consider, for example, that Barr, *et al.*, propose diversification as the economic rationale for producing a pyramid structure. That is, the founding shareholder becomes wealthy, and proceeds to diversify his personal wealth by accumulating various enterprises, simultaneously retaining control by the system of pyramids (Gerson, 1992; Barr and Kantor, 1993; Barr, *et al.*, 1995).

Finance theory demonstrates, however, that higher returns are in equilibrium available only at the cost of higher risks; where arbitrage is possible, returns should, in risk-adjusted terms, be equalised across the set of investment opportunities, at least in expectations form (Fama, 1986). In terms of the theory proposed by Barr, *et al.*, this implies that the holding company, which earns higher returns, should also entail higher risk. Indeed, their analysis finds this to be the case; the mining house trades at a risk premium of between 1.3 and 7.0 percent per annum (Barr, *et al.*, 1995: 26). This is clearly inconsistent with the diversification rationale for structures such as pyramids. Indeed, as noted in an earlier chapter, it appears that the groups in South Africa are not ‘diversified’ in the financial sense of reducing the variability of returns, but rather in the more limited economic sense of their involvements in a wide variety of industries. An explanation for the system of groups and pyramids in South Africa must consequently incorporate the more restrictive economic sense of the term ‘diversification’, or draw a clearer distinction between the economic functions and consequences of conglomerates and pyramids.

More importantly, perhaps, the result that groups are not diversified in the sense implied by finance theory, is at odds with the theory of South African entrepreneurship implied by the agency explanation of Barr, Gerson and Kantor. Under the agency hypothesis, for example, the system of pyramids and groups is the *end* point of the process of South African entrepreneurship, since the founding entrepreneur has allocated his entrepreneurial skills to an investment, accumulated wealth from the investment, and proceeds to diversify his personal wealth. Thereafter, the founding entrepreneur expends effort, presumably a substantial amount of effort, in monitoring the management of the diversified corporations he controls.

That is, the economic rationale for the system of diversified groups is, according to Barr, Gerson and Kantor, the diversification of wealth, and represents the end point of the entrepreneurial process. As noted above, however, this explanation is at variance with the data, because the diversification of wealth (in the limited finance theory sense of the term) does not appear to enter the conglomerate diversification strategy in any meaningful way.

2.4.4 THE PRINCIPAL-AGENT MODEL: SOME CONCLUDING REMARKS

In summary, four objections to the agency or shareholder control explanation for South Africa's vast system of pyramids and groups have been noted. Firstly, an asymmetric explanation for the premium returns earned by holding companies is absent from the agency theory. Secondly, the agency theory suggests unrealistic orders of magnitude in the direct pecuniary benefits of shareholder control. Thirdly, the agency theory provides an incomplete explanation of the *ex post* emergence of South Africa's system of pyramids and groups, namely the diversification of entrepreneurial wealth. Finally, the agency explanation fails to explain the absence in South Africa of alternative forms of shareholder control. Indeed, the principal-agent framework leaves the impression that no material distinction may be drawn between conglomerates and pyramids. Accordingly, a conglomerate is in practical terms indistinct from a pyramid, or more precisely, the system of conglomerates and groups is explained almost entirely by the shareholder control function of the system of pyramids. This dissertation has primarily been an attempt to *separate* these issues—monopoly, conglomerates, pyramids—and in this way to gain a clearer understanding of the rationale, and economic consequences, of the different systems.

3. THE RATIONALE FOR SOUTH AFRICA'S SYSTEM OF PYRAMIDS

The preceding analysis may leave the impression that this dissertation aims to question the role and consequences of the pyramid system in South Africa. For example, the analysis has discussed the Anglo-American model of corporate control, in which individual action in a continuously active stock market is thought to be sufficient, firstly to discipline management, and secondly to align managers' and shareholders' interests. The analysis then considered the German-Japanese model, in which continuous monitoring by a variety of financial institutions—mainly a few large banks and insurance companies—is thought to be closely substitutable with the Anglo-American model. In turn, the analysis considered in some detail the South African system of pyramids—and its own close substitute, the system of low-voting shares. In particular, the analysis has contradicted—or at least raised certain important objections to—the most prominent South African research into the pyramid system. Thus the impression may easily be gained that the current argument aims to question the rationale and economic consequences of the system of pyramids.

However, two important points are raised by the preceding analysis. Firstly, each of the different corporate control systems seems to be equally viable. That is, the Anglo–American, German–Japanese, and pyramid mechanisms of corporate control *all* have the effect of aligning the operations and activities of large modern corporations with the shareholder’s desired objective of wealth maximisation. For example, the different systems enhance shareholder’s ability to monitor management, and grant them the power to discipline wayward management behaviour. Thus, the first point to note is that the different corporate control mechanisms appear to be substitutes for one another, at least so far as their objectives are concerned. Secondly, and more importantly for present purposes: if the different corporate control mechanisms are indeed substitutes (as will be argued below), then it seems reasonable to expect an explanation for the fact that only *one* system is observed in South Africa. Given that the various corporate control systems are close and equally viable substitutes—since they *all* have the desired result in a principal–agent framework—why do we observe only *one* of these systems in South Africa, namely pyramids, rather any other system?

The present section argues, firstly, that the observed differences between corporate control arrangements around the world are more apparent than real; secondly, that the different corporate control mechanisms *are* close substitutes; and finally, that the pyramid is observed in South Africa precisely because it is the *only* system which corresponds with the structural result of South African entrepreneurship, namely the conglomerate. Thus, the analysis aims to situate the South African system of pyramids *within* the South African system of conglomerates. Essentially, the analysis may be reduced, simply, to making the rationale of a *pyramid* endogenous to the special functions and abilities situated within the *conglomerate*.

3.1 SUBSTITUTABILITY BETWEEN THE VARIOUS CORPORATE CONTROL SYSTEMS

Before the analysis considers, more directly, the possibility that the various corporate control systems observed in practice are close substitutes for one another, the counter argument should be noted. In particular, it may be argued that the various mechanisms of corporate control—the Anglo–American and German–Japanese models, or the pyramid and low-voting share approaches—are *not* substitutes for one another. The most prominent of these arguments is presented by Roe (1993), who argues that international differences in political and legal “codes” account for the observed differences among preferred corporate control systems in different countries. In particular, Roe argues that the prevailing “populist” political culture in the United States and the United Kingdom accounts for the dispersed and non-concentrated ownership of U.S. and U.K. corporations.

For example, Roe argues that U.S. and U.K. politicians have enacted corporate legislation which serves to limit the concentrations of ownership in the hands of, say, financial institutions, or equivalently, tax legislation which makes it prohibitively costly for banks and insurance companies to own equity in

industrial companies—on account of the populist resentment of narrow concentrations of wealth. In the U.S., the legislation to which Roe refers range from antitrust provisions and tax considerations; direct prohibitions on bank, insurance company, and mutual fund control of public corporations; and the imposition of direct bans on various corporate control mechanisms (Gerson, 1992). Presumably, Roe argues that a greater cultural and political affinity exists for concentrated corporate control in Germany and Japan (though Roe does not suggest the individual or aggregate differences upon which these cultural differences might be based).

Roe's "politico-legal" explanation accounts neatly with observed empirical regularities—such as the observed dispersion of U.S. equity ownership, and the existence of legislative limitations on industrial participation by financial institutions in the U.S. and the U.K.. However, an important objection may be raised against this approach. In particular, Roe's explanation fails to make the point that legislation and political obstacles to concentrated corporate ownership and control can be *endogenous* to an efficient system of economic activity. That is, Roe's argument fails to pay the appropriate degree of attention to the possibility that economic—particularly corporate and commercial—legislation has a fundamental *enabling* nature. As will be seen, the political and legal restrictions to which Roe refers—particularly since these "restrictions" exist within the framework of corporate and commercial activity—are at least equally likely to be endogenous to the economic system, rather than exogenous.

Easterbrook (1997), for example, agrees with Roe's observation that

"[for a business enterprise, the relevant economic constraints] include politics. If some external force really means that American mutual funds can't own more than a few percent of the shares of any large corporation, that handicap may lead to a reduction in efficiency." (p. 25.)

But as Easterbrook notes,

"[I wonder] whether businesses can't control their surroundings, instead of the other way 'round. More than one thoughtful person has believed that business leaders could have defeated efficiency-reducing bills by applying the tools of political suasion. ... [U.S. milk producers, for example] win higher prices in the political arena even though they are few in number and opposed to the most popular cause of all—good nutrition for children. Why should things be different in financial markets? ... [For example] why is there so little resistance to the laws and rules that fracture holdings in the United States? And why is England's structure of holdings so similar to the United States, even though its laws are like those of Japan and Germany?" (p. 23.)

Easterbrook raises the important possibility that U.S. legal and political restrictions—which Roe views as *disabling* for American corporations—are essentially *enabling*. In particular, the possibility should not automatically be excluded that the U.S. system of *diffuse* corporate ownership and control, on the one

hand, and the body of legislation which seems to prevent concentrations of corporate control, on the other, are related in a causally meaningful way. It may be, for example, that a third joint determinant exists for both systems: the wide dispersion of ownership and control which is observed in practice in the U.S., and the legislation which (on the face of it) prevents the emergence of alternative systems, may be related by a mutual causal determinant, founded in the economic activities of the corporations themselves, which secure both systems simultaneously. In particular, the underlying economic functioning of the corporations in the U.S. may *necessitate* the emergence of a diffuse and widely dispersed system of corporate control. As will be seen below, this argument rings particularly in South Africa, where the pyramid may be framed as the best—indeed the *only*—corporate control device which corresponds closely with the underlying structure of corporate activity, namely the conglomerate.

3.2 SITUATING THE PYRAMID WITHIN THE CONGLOMERATE

The above argument frames a number of serious doubts about the economic validity of the politico-legal explanation for the active use of the stock market for corporate control purposes in the U.S. As a corollary, it would appear that differences in international politico-legal environments are insufficient to explain the differences in international corporate governance systems. This argument seems particularly appropriate in the South African context. As has been seen, SAB's conglomerate structure appears to offer a significant explanation for the group's historical financial success. At least, in a decomposition of SAB's historical performance, the group's conglomerate activities contributed substantially more, relative to the alternative pyramid and monopoly explanations for the group's performance. The monopoly and pyramid structures account, on their own, for a relatively insignificant fraction of SAB's historical financial success. Thus, as has been seen, a successful conglomerate diversification strategy provides a highly fundamental explanation of the successful performance of South Africa's premier industrial enterprise.

Clearly, then, the pyramid cannot be an 'accidental' structure in the South African corporate landscape. Nor can the preponderance of the pyramid system in the South African context be explained exclusively by the preference among U.S. populists for a diffuse system of corporate ownership and control, and presumably then, a relative preference on the part of the South African political system for a system of concentrated corporate control. In other words, the pyramid is not arbitrarily appended to the South African corporate landscape, but serves as the preferred corporate control device *given* the essential feature of the conglomerate-type structure in South Africa.

Simply put, the pyramid is endogenous to the conglomerate. The preponderance of the pyramid structure in South Africa follows directly from the preponderance of the conglomerate structure. The argument may be outlined properly as follows.

- The desire for corporate control exists as an inherent feature of the scale and scope of modern corporate activity. Concentrations of corporate ownership and control appear to be a solution to the principal–agent problem inherent in the large modern corporation.
- A preference for concentrations of corporate ownership and control exists—at least as a strong empirical regularity—in all economies where the large modern corporation exists. Wherever corporate activity exists on a significant scale, a solution to the principal–agent problem exists as well, specifically in the form of concentrations of corporate control.
- The various alternative corporate control systems seem to be close substitutes for one another, since they serve the common underlying function of concentrated corporate control.
- The basic appearance of corporate control mechanisms differs widely across countries. In the U.S. and the U.K., the market for corporate control exists in the stock market, which serves as an active market for takeovers. In Germany and Japan, the market for corporate control exists within the large financial institutions, particularly the banks and insurance companies, as a continuous principal–agent type monitoring system. In South Africa, the corporate control market exists in the system of pyramids (and to a lesser extent, low-voting shares).
- Therefore, an explanation for the observed differences in international corporate governance structures must be sought within the structure of corporate activity itself—not from political and legal explanations. Possibly, political and legal restrictions may be endogenous to the desires of the corporations themselves. Probably, the corporate structures upon which economic activity is based determine, simultaneously, the basic format of the preferred corporate control mechanism.
- In the case of South African Breweries, the strategy of conglomerate diversification accounts for a significant fraction of the group’s historical financial success. More generally, it appears that the conglomerate business format emerges from the concentration of entrepreneurial success in a handful of key South African entrepreneurs, all of whom are represented, in the case of South African Breweries, in the country’s most profitable business.
- In the same way that the conglomerate is a natural—indeed the only—corporate structure appropriate in such circumstances, the pyramid is the appropriate corporate control structure. That is, given the preference for corporate control mechanisms, and the apparent superiority of SAB’s conglomerate diversification strategy, SAB’s arrangement in terms of the two business formats—conglomerate and pyramid—seems entirely reasonable.

4. CONCLUDING REMARKS

The existing explanation for the system of pyramids in South Africa is slightly misleading. In particular, the academic literature's exclusive focus on the pyramid system suggests that the pyramid itself occupies a key position in the structure of the South African corporate landscape. Certainly, the pyramid is important: it offers a solution to the separation of ownership and control—or more broadly, the principal–agent problem—encountered in all large modern corporations. But the pyramid is only one of several competing and equally viable systems of corporate control. The most that can be said, therefore, is that pyramid and non-pyramid systems of corporate control are roughly equally efficient—as efficient, that is, as the principal–agent problem appears to justify.

Certainly, there may be efficiency differences between the different approaches, and their broader economic desirability should be evaluated by an appropriate comparative method. But the peculiar preponderance of the pyramid system in South Africa is not readily explained by political or cultural differences or, for that matter, by obvious substantial differences in the different advantages of the pyramid system, relative that is to the equally viable alternative systems of corporate control. Rather, the pyramid system is justified in the case of South African Breweries—and perhaps more generally—precisely on account of the underlying arrangement of the group's corporate activity. That is, the close correspondence between the twin systems of conglomerate diversification and pyramid–type control does not exist as a coincidence. Specifically, the pyramid system exists in the case of SAB as a natural result of the group's conglomerate corporate structure.

Thus the argument reduces essentially to a single causal proposition: Does the pyramid determine the conglomerate, or does the conglomerate determine the pyramid? As has been seen in an earlier chapter, the conglomerate is the key “source” of SAB's historical financial viability: in particular, the entrepreneurial and managerial skills which reside in the conglomerate were measured, and when these were related to the pyramid, the empirical magnitudes themselves illustrated that the conglomerate—not the pyramid—is “central” in the historically successful process of corporate activity at South African Breweries.

CONCLUSIONS

This dissertation sought to explain the extraordinary historical success of the South African Breweries group, with particular reference to the three parallel structures which are usually expected to explain SAB's extraordinary profitability. Firstly, the analysis considered SAB's apparent monopoly position in the South African malt beer industry. Secondly, the analysis examined the SAB group's twin conglomerate and portfolio diversification strategies. Thirdly, the analysis investigated the SAB group's pyramid system of corporate control. Briefly, we established that SAB does not have a distinct ability, or a significant incentive, to behave monopolistically in the beer industry. In several important contexts, SAB has an incentive to behave in ways which are not expected of a monopolist. Thus, we concluded that monopolistic behaviour cannot account for the SAB group's extraordinary financial performance. The analysis then decomposed by empirical methods the respective contributions of the three different systems—monopoly, conglomerate, pyramid—to SAB's historical success. We established that SAB's corporate control mechanism contributes to an explanation of SAB's historical financial performance in roughly the same limited order of magnitude as the company's single supplier position in the malt beer industry. We concluded, then, that the pyramid system cannot account for the SAB group's historical financial performance. Consequently, the analysis directed its attention to SAB's horizontal diversification strategy, that is, SAB's conglomerate structure.

The conglomerate structure proved to be central in explaining SAB's historical financial performance, in several respects. Firstly, the company's beer division accounts for a significant component of the group's overall historical returns. Thus, the beer division may be situated within the SAB group as a strategically successful investment, that is the result of an ordinary portfolio-type decision which, with foresight and good management, proved to be a phenomenal success. Secondly, the SAB group's success consists, not only of its strategic investment in the company's beer division, but also in a broader range of horizontally unrelated investments. Thus, the overall pattern of SAB's historical financial success may be framed largely in terms of successful portfolio investment—a distinct and superior ability to identify and invest in companies and industries which are themselves highly successful. Thirdly, the analysis suggested that the skills which have been the primary contributors to SAB's historical success—namely the ability to identify and invest in strategically successful companies and industries—are the very same skills which are normally associated with successful entrepreneurs. Thus, we concluded that SAB's conglomerate structure has its own 'rationale'; that this rationale may be framed in terms of South African entrepreneurial activity more generally; and that the conglomerate seems to be a natural outcome of that entrepreneurial process. Since the SAB group is a conglomerate and itself forms part of a broader conglomerate, this conclusion suggests a broader rationale to the broader system of conglomerate

diversification in the South African context. Finally, SAB's conglomerate structure is itself the determinant of the group's pyramid corporate control mechanism. That is, in selecting from several alternative mechanisms of corporate control, SAB's controllers selected (or indeed devised) the pyramid, because this is the only corporate control structure which corresponds precisely with the SAB group's hierarchical conglomerate structure. Thus, so far as SAB is the representative South African conglomerate (a result which is suggested by our analysis), we may conclude that the various, equally viable systems of corporate control are not uniformly observed in practice in South Africa, precisely because the pyramid system is the only one that corresponds with the preferred conglomerate structure.

The implications of this conclusion were examined in detail in the main body of the dissertation. For present purposes, it will be necessary only to note the following practical results.

Firstly, the academic literature in South Africa should focus less on the rationale of pyramid corporate control mechanisms. Similarly, the international academic literature on the subject should not direct its focus exclusively, as has been the case, to an explanation of the alternative corporate control devices observed in practice. The principal-agent foundations of these structures have been firmly established, so little remains to explore in this area. Instead, the South Africa literature should aim to achieve an explanation for the *unique* emergence in South Africa of the *pyramid* corporate control mechanism—as opposed, that is, to the emergence in other countries of equally viable alternatives. This type of analysis would have the advantage of explaining, not only the success of conglomerate diversification strategies in the South African corporate landscape, but also—more fundamentally—the extraordinary success, in the history of South African economic development, of the entrepreneurs who are vested in these conglomerates. Indeed, since the pyramid and the conglomerate are closely related—and since South African conglomerates are closely related to entrepreneurial capitalism, an analysis of the pyramid system in South Africa cannot hope to do otherwise. Thus, empirical and theoretical analyses of conglomerate diversification strategies, as they have applied in South Africa, are a crucial area for future research into the profile of corporate governance systems in South Africa.

Secondly, the government's occasional resistance to the twin systems of pyramids and conglomerates appears to be misplaced (ANC, 1992; and Andrew, 1994). Admittedly, the government has a degree of legitimate political interest in the extraordinary concentration of wealth in South Africa. But this resistance must be seen in precisely that context: it is a resistance to the concentration of *wealth*—not to the concentration of ownership, or the concentration of industry output, or to the concentration of corporate control. The preceding analysis suggested, for example, that the questions of monopoly, conglomerates, and pyramids should be maintained as conceptually distinct phenomena. Similarly, a clear conceptual distinction should be maintained between the functions of—or more precisely, the underlying economic processes which are used to achieve—concentrations of industry output; concentrations of corporate

ownership; and concentrations of corporate control—on the one hand—and concentrations of wealth and economic power on the other. The results drawn in this dissertation suggest, for example, that the effect of criticising the concentration of ownership in South Africa is, simultaneously, a criticism of the concentration of entrepreneurial expertise. Similarly, the effect of criticising the concentration of industry output in South Africa is, at least in the case of South African Breweries, a criticism of the concentration of entrepreneurial success. Similarly, the effect of criticising the concentration of corporate control in South Africa is a criticism of the concentration of managerial expertise. Clearly, it will not ordinarily be desirable to criticise the institutional framework surrounding entrepreneurial and managerial success. Indeed, the results obtained in this dissertation imply, instead, that the South African government's interest in the redistribution of wealth may well be achieved independently of redistributions of industry output, redistributions of equity ownership, or redistributions of corporate control. The appropriate forum for the redistribution of wealth may well be derived in the usual way, including a progressive tax system, welfare transfers, or poverty relief. But within the context of South African Breweries, and perhaps more broadly, there does not seem to be an appropriate forum for redistributions of corporate control or equity ownership.

Finally, the analysis suggested that SAB's pyramid structure is endogenous to the corporation's conglomerate diversification strategy. Since the conglomerate is the "driver" of SAB's historical financial success, the pyramid seems to be a natural option—among the various corporate control alternatives—on account of its close correspondence with the core strategy of conglomerate diversification. This suggests that an explanation for the preponderance of the pyramid system in South Africa is simultaneously an explanation for the preponderance of the conglomerate structure in the South African corporate landscape. Such an explanation is beyond the scope of the present work, though it has been suggested that the entrepreneurial and managerial success contained within the conglomerate account for a significant fraction of the SAB group's historical financial success. More importantly, however, this result suggests that the recommendations based in various academic quarters—about the desirability of one corporate control mechanism *vis-à-vis* any other system—are misleading. For example, the suggestion that the U.S. system should be restructured to resemble more closely the Japanese model, is substantially—indeed causally—misguided. The corporate control structure adopted by any particular company—and the structure which prevails in any particular country—is itself determined by the appropriate structure for economic activity in general, in much the same way that the peculiar features of the pyramid structure are themselves determined by the peculiar features of conglomerate diversification strategies in the case of the SAB group.

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